University Of Alberta
0 0003 46571 63

BLUE JAY

VOL. 20

1962

Digitized by the Internet Archive
in 2019 with funding from
University of Alberta Libraries

https://archive.org/details/bluejay201sask

THE Blue Jay

EDUCATION LIBRARY
MAR 10 196
LIBRARY

Vol. XX, No. 1 SASKATOON, SASK. MARCH, 1962

Richardson's Ground Squirrel Photo by Hans S. Dommasch

Published quarterly by
THE SASKATCHEWAN NATURAL HISTORY SOCIETY
REGINA, SASK.

THE SASKATCHEWAN NATURAL HISTORY SOCIETY

OFFICERS (October, 1961, to October, 1962)

Honorary President	W. P. Thompson, University of Sask., Saskatoon.
Past President	Robert W. Nero, 713 Empress Street, Regina.
President	Ronald M. Bremner, 404 Medical Arts Building, Saskatoon.
First Vice-President	Steve A. Mann, Skull Creek.
Second Vice-President	Doug Wade, 1351 Jubilee Avenue, Regina.
Business Manager	Frank Roy, 120 Maple Street, Saskatoon.
Treasurer	Grace Steele, 3603 Caen Avenue, Regina.
Editor	George F. Ledingham, 2335 Athol St., Regina.
Secretaries	Margaret Belcher, University of Sask., Regina Campus. Thelma Pepper, 1015 Temperance Street, Saskatoon.

DIRECTORS

Three-year: Laurence Beckie, Bladworth; Manley Callin, Fort San; Doug Gilroy, R.R. 2, Regina; John Hudson, Saskatoon; Ross Lein, Estevan.

Two-year: Harvey Beck, Saskatoon; Mrs. Keith Paton, Oxbow; Bill Richards, Saskatoon; Spencer Sealey, Battleford; Mrs. F. B. Taylor, Moose Jaw.

One-year: Keith Best, Swift Current; William Brownlee, Rose Valley; Robert Folker, Saskatoon; Thomas Harper, Regina; E. E. Symons, Rocanville.

PRESIDENTS OF LOCAL BRANCHES

Ron Lloyd, Meath Park; Frank Hill, Moose Jaw; Tony Capusten, Prince Albert; Tom Gentles, Regina; Frank Roy, Saskatoon.

CHAIRMEN OF COMMITTEES

Bookshop: Mrs. Elizabeth Cruickshank, 2329 Athol Street, Regina; Conservation: Fred G. Bard, 633 Broadway Avenue, Regina; Greeting Cards: Mrs. Dot Wade, 1351 Jubilee Avenue, Regina; Membership: Mrs. Grace Steele, 3603 Caen Avenue, Regina; Publications: Stuart Houston, 2401 Hanover Avenue, Saskatoon; Publicity: Frank Brazier, 2657 Cameron Street, Regina; Research Awards: Elmer L. Fox, 3455 Rae St., Regina.

BLUE JAY MAGAZINE

Editor: George F. Ledingham; Associate Editors: Robert W. Nero, Margaret Belcher, Joyce Dew.

NOTICE TO MEMBERS

The **Blue Jay** began nearly 20 years ago for the express purpose of printing the articles, notes and news of people interested in natural history in the prairie provinces. Any member may write in to the editor. The editor will select from the items submitted to try and give something of interest to all members of the society. If you have something of interest to tell please send it in and share it with others. Members may, of course, go to meetings of the society and they should feel free to bring their family and friends. Any member may make suggestions for the improvement of the society.

REPRINTS

Reprints of articles appearing in the **Blue Jay** are only available if the author makes special arrangements with the editor or directly with the printer, Midwest Litho, Saskatoon. Any contributor wishing a few extra copies of any particular issue of the **Blue Jay** may get them at cost if he makes his request when the **Blue Jay** goes to press, i.e. one month before the magazine is available for distribution.

MEMBERSHIPS

Anyone interested in any phase of natural history is welcomed as a member of this natural history society. The **Blue Jay** is sent to all members not in arrears for membership dues. Because of the high cost of printing the magazine is not sent out unless fees have been paid. If you receive this magazine you are a member in good standing. Memberships should be sent to the treasurer, Mrs. Grace Steele, 3603 Caen Avenue, Regina. Regular, $2.00 per year. Junior (including schools) $1.00.

The Blue Jay

Published quarterly by the Saskatchewan Natural History Society
Founded in 1942 by Isabel M. Priestly
Authorized as second class mail and for payment of postage in cash. P.O. Department, Ottawa.

Vol. XX, No. 1 MARCH, 1962 Pages 1-48

TABLE OF CONTENTS

Some courtship behaviour of the Short-eared Owl, **Ralph D. Carson** 2
An observation of Great Horned Owl feeding behaviour, **Rick Sanderson** 3
Further Great Gray Owl records, **C. Stuart Houston** 4
Screech Owl at Regina, **Bill Fleming** 4
A fall crow roost and possible migration near Saskatoon, **J. Bernard Gollop** 5
White-breasted Nuthatch caching food, **Ron Austin** 5
Annual report of the Whooping Crane population, **Fred G. Bard** 6
Interesting bird records from across the prairies 8
Townsend's Solitaire at Fort Qu'Appelle, **E. Manley Callin** 9
Banded Purple Finch recovered at Yorkton, **Larry A. Morgotch** 9
Some bird observations along the La Ronge-Churchill River and Hanson Lake Roads, **Douglas E.** and **Dorothy R. Wade** 10
Some Saskatchewan finches, photos by **Doug Gilroy** 12
Apparent breeding record of Turkey Vulture along the South Saskatchewan River, **Dave Santy** 14
Unusual nesting sites of Brown Thrasher and Yellow-shafted Flicker, **P. Laurence Beckie** 14
Hunting behaviour of a Swainson's Hawk, **Bill Richards** 15
An outbreak of botulism in the Regina Waterfowl Park, **Rick Sanderson** 15
Snowy Owl banding project, **Bernard C. Haysom** 16
Deformed Hairy Woodpecker, **George Chopping** 17
Fourth annual report of the Prairie Nest Records Scheme, **Elmer L. Fox** 18
The photographer's nightmare, photo by **Hans Dommasch** 19
Twentieth annual Saskatchewan Christmas Bird Count, 1961, edited by **Mary Houston** 20
Flora of eroded hillsides, **Keith F. Best** 24
The Bur Oak, photos by **W. C. McCalla** 26
First record of Common Mullein for Saskatchewan, **John H. Hudson** 27
The Cecropia Moth in the prairie provinces, **L. O. T. Peterson** and **H. A. Worden** 28
Good fences make good neighbours, **R. M. Ferrie** 34
Farm aid planned to help waterfowl 36
Suspend duck season to help waterfowl 36
Plans for a small sanctuary, **Walter Riome** 36
Red Fox in southwestern Saskatchewan, **Terry Wedge** 37
NOTES AND LETTERS 37
THE BLUE JAY BOOKSHELF
Ecology of the aspen parkland of western Canada, by **Ralph D. Bird**, reviewed by **Douglas E. Wade** 40
Annual report of the Dept. of Natural Resources, 1961 42
The lonely land, by **Sigurd F. Olson**, reviewed by **Douglas E. Wade** 42
JUNIOR NATURALISTS 44

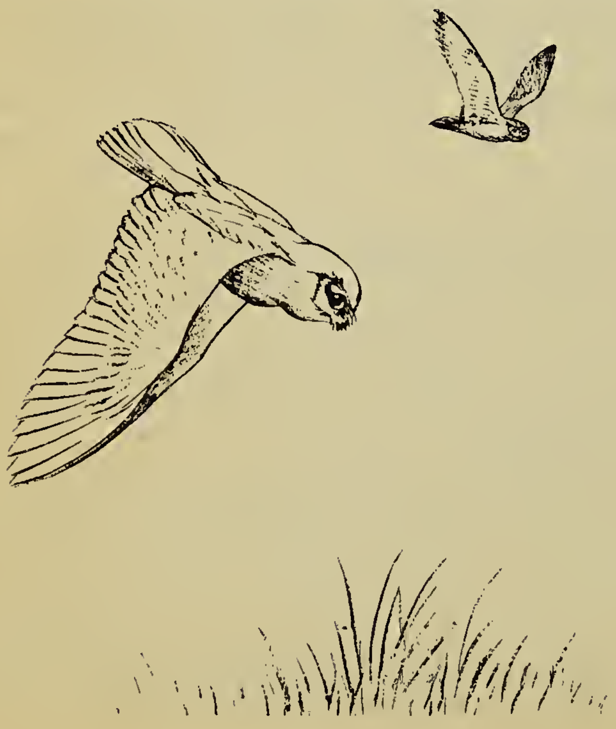
Any material printed for the first time in the **Blue Jay** may be reproduced without permission. Credit lines will be appreciated.

Courtship Behaviour of Short-eared Owl

by **Ralph D. Carson**, Sask. Museum of Natural History, Regina

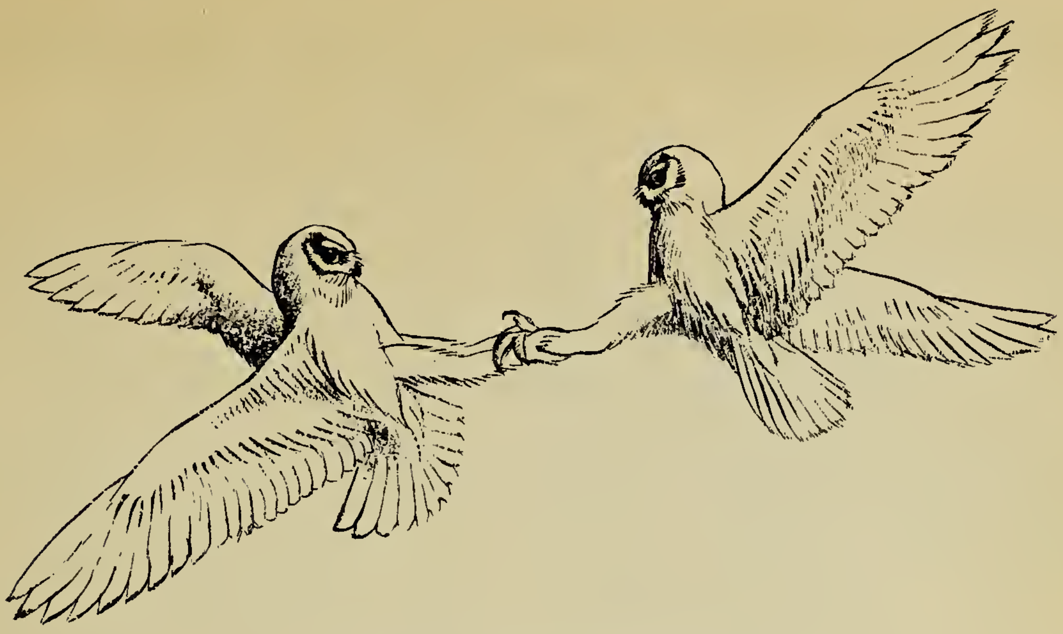
During the late evening of May 18, 1961, while Dr. R. Nero and I were returning from a field trip in southern Saskatchewan we observed an exciting aerial performance by two Short-eared Owls (*Asio flammeus*), a display which is apparently a part of their courtship behaviour. Current behavioural literature shows that very little has been published on the displays of owls, hence the significance of reporting chance observations.

We were travelling along Highway No. 13 near Ogema when we suddenly glimpsed two Short-eared Owls flying about a stubble field in the rapidly fading light. We could see one owl making short stoops beyond a rise at what we surmised was a predator on the owl's territory. As we drove closer to the scene we could see a pattern in the flight of both birds and after shutting the engine off we could clearly hear the "wing-clapping" of an owl in courtship flight. Both owls were rapidly circling with steady wing beats over a small portion of the field at a height of about 25 feet. Each owl was flying in a separate circular pattern which occasionally brought them side by side. After intervals of circling two or three times one of the owls, which we assumed was the male, would make a short, slanting dive to a particular spot in the field (potential nest site?), bringing his wings down and rapidly striking them together, thus producing an astonishing burst of clapping sound. This clapping lasted about two seconds and was clearly audible to us each time it was given although we were about 400 feet or more away.



Following a series of wing-clapping dives the male would rush toward the presumed female, the latter would swing about to meet his approach and, just before it seemed that they would collide, they would suddenly thrust out their feet, grasp each other's feet and then, with flailing wings and still clinging together, fall to earth with a spinning motion. The spinning motion seemed to result from the momentum of the rush rather than an attempt on their part to fly in such an extraordinary fashion. In one occurrence, one of the owls seemed to lose its balance as they struck together and it quite tumbled over backwards. Again, we assumed that this was caused by the momentum of the male's flight. This "spinning-fall" act was repeated three or four times in the few minutes that we were watching the birds. Afterwards, the owls would immediately take flight and begin to circle again in their respective flight paths, and the male would again resume his wing-clapping dives. We watched this remarkable performance right up to the end. About ten minutes after our arrival on the scene the female alighted on the stubble; the male made several stoops at her, apparently in an effort to excite her into further action, but she showed no response and the male then settled on the ground at some distance.

Arthur C. Bent, in **Life Histories of North American Birds of Prey,** Part II, 1938, pp. 169-170, quotes observations of the courtship flight and "song" of the Short-eared Owl as recorded by A. D. DuBois, Francis Harper, and Edward A. Preble. DuBois and Harper observed courtship flight, including the wing-clapping, but at great heights — as much as several hundred feet. Moreover, only single birds were involved and nothing comparable to the above observation seems to have been reported.



Short-eared Owl Behaviour.

Drawings by Ralph D. Carson

An Observation of Great Horned Owl Feeding Behaviour

by **Rick Sanderson**, Regina

As late as November 23, 1961, three species of owls were present within the Regina city limits. There was a Great Horned Owl (*Bubo virginianus*), a Short-eared Owl (*Asio flammeus*), and a Long-eared Owl (*Asio otus*). At present (January 14, 1962), two owls may be seen, the Great Horned Owl and the Snowy Owl (*Nyctea scandiaca*).

After the blizzard on October 23, an unusual number of owls were seen in the city: there were as many as three Long-eared Owls (one of which was seen until November 25) and two Great Horned Owls (one of which is still in the area). I might add that on the day following the blizzard, October 24, Bill Fleming and I saw 21 Rough-legged Hawks flying over the Saskatchewan Museum of Natural History in twos and threes.

The Long-eared Owl was seen on very few occasions, but the Great Horned Owl remained in a stand of spruce trees on the eastern edge of the Waterfowl Park. Here it used a crow's nest as a feeding platform. On November 7, there were also two Short-eared Owls hunting in the marsh, bringing the number of owls hunting in an area of less than one square mile to four. After November 7 only one Short-ear was seen, and on November 26 the second Short-ear was found dead. However, a second pair of Short-ears was seen over a field near the marsh on December 2. (M. Belcher, L. Murray, R. Austin).

I collected a Great Horned Owl pellet on November 25 which contained bird feathers, bones and a talon. When the second Short-eared Owl was found dead the following day I noticed at once the similarity between its talons and the one taken from the pellet. They were a perfect match and I concluded that the Great Horned Owl had killed and eaten the first Short-eared Owl that disappeared after November 7. I examined the crow's nest and found several types of feathers. Some matched the primaries on the dead Short-ear, and most of the others resembled other feathers of the dead bird, particularly the breast feathers.

A factor which may have provoked the Great Horned Owl to attack the Short-ear, besides its natural aggressiveness, was possibly a shortage of food, as the area was undoubtedly heavily hunted by the four owls. There have been few instances when different species of owls have been known to attack each other and written reports concerning this aspect of their behaviour seem to be scarce.

Further Great Gray Owl Records

Compiled by **C. Stuart Houston**, Saskatoon

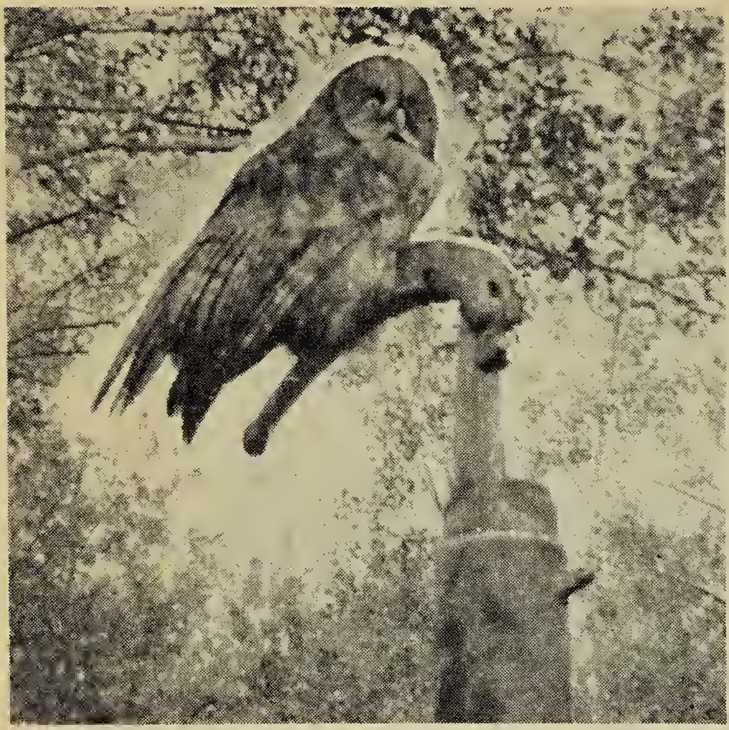


Photo by Jenny Minky
Great Gray Owl, Sept. 5, 1960

When I visited the High Hill district northeast of Kelvington on January 2, 1960, to band the Barred Owl captured by the Waycheshens, Anton and Steve Waycheshen reported that a Great Gray Owl had been seen the previous day at nearby Warner Lake. Although a search that day failed to disclose the Great Gray, it was seen again the next day by the Waycheshens. Thereafter, it was seen in the same area nearly every Saturday night all winter.

That this bird may have remained in the area to nest is suggested by the following information forwarded by P. J. (Bob) Fraser of Kelvington. On September 5, 1960, four Great Gray Owls (presumably a family group) appeared at the farm of Arvid Lindgren, five miles north and three miles east of Kelvington where Miss Jenny Minky photographed one of these rare owls resting on a pump handle. Miss Minky felt that all four birds were young birds "as they were not very strong on the wing." They flew from the farmyard down to a creek where they lit on some low scrub. At the time, she could hear other owls calling from up the creek and presumed these to be parent birds.

Bill Richards forwarded another report that Great Gray Owls are seen winter and summer on the farm of Jens Knutson in the Etomami district, 20 miles southeast of Hudson Bay, Saskatchewan. Ron Lafreniere of Saskatoon saw these birds several times while visiting the farm — including one seen at 100 feet while he was hunting moose there in the fall of 1960. A Great Gray was found dead in a mink trap by Knutson in the winter of 1959-60.

EDITOR'S NOTE: See also the report of a Great Gray Owl seen north of La Ronge by Douglas and Dorothy Wade, page 10 of this issue.

Screech Owl at Regina

by **Bill Fleming**, Regina

On October 17, 1961, the first reported sighting of a Screech Owl (*Otus asio*) in the Regina district for 20 years was recorded. Rick Sanderson and I sighted a Screech Owl sitting about nine feet off the ground in a small spruce tree in the grounds of a large home on the edge of the Regina Waterfowl Park. Mr. Elmer Fox later confirmed the sighting, although he was unable to take pictures because of the lack of light and a telephoto lens. The owl, a bird in the red phase, was gone the next day as the weather turned cold.

The Screech Owl is a small owl which occurs in two colour phases, irrespective of age, sex, or season—grey and rufous. One is rich brown and white with much fine pattern giving a grey effect, the other has the brown replaced by bright rufous, almost brick red.

In western Canada, the Screech Owl is commonly found only in southern Manitoba and British Columbia. Records for Regina are few. Miss Margaret Belcher in **Birds of Regina** (1961. Spec. Pub. No. 3

(Continued on page 33)

A Fall Crow Roost and Possible Migration Near Saskatoon

by **J. Bernard Gollop**, Canadian Wildlife Service

On September 2, 1961, 15,700 crows were seen entering a stubble field southwest of the mouth of Beaver Creek, eight miles south of Saskatoon (NE 1-35-6 W3rd). They later moved into a willow and aspen grove immediately south of the field. Periodic checking thereafter resulted in a maximum estimate in excess of 52,000 on September 18—45,000 entering the roost in a 29-minute period (6:56-7:25 p.m. CST). This "count" (by 10's, 100's and occasionally 1000's) was made from the east bank of the South Saskatchewan River just north of Beaver Creek. Birds were also noted entering the roost from the south but these could not be counted.

The next count was on September 24 from a point about a half mile south of the roost. An attempt was made to count only crows that could not be seen from the north. The estimate was 19,100. About 70,000 crows were probably using the roost on September 18.

The most consistent and heavily used flight lines into the roost appeared to be from the east and southeast. A steady stream of birds usually arrived at the river one to four miles north and then flew over the west bank south into the roost (the river turns west at Beaver Creek). On October 4 the flight line from the southeast was traced back 14 miles from the roost; it passed within half a mile of the Strehlow elevator. Crows were occasionally seen arriving from the northwest and from due south. Flight lines varied somewhat from night to night. The only obvious factor causing this was shooting along the route.

All but the latest birds usually landed and spent some time on sand banks, in trees or in grain fields within a mile or two of the roost before entering it. Often part of the southeast population would pass east of the roost and congregate in trees a mile northeast of it.

On September 26, R. C. Caldwell of Ducks Unlimited and the author stationed themselves north and south of the roost for a complete count. On this occasion, most of the crows used a willow area a mile north of the regular roost and too far west for birds arriving from the north to be counted. There were often hunters at the regular roost.

No crows were seen in the vicinity of the roost on October 6 from 6:15 to 6.35 p.m., when it was almost dark.

This same roost may have been used in 1960. On September 9, 1960, 12,300 crows were counted flying east to the river from a point about four miles northeast of the 1961 roost. No attempt was made to locate the roost then.

In the course of other work on September 9, crows in good numbers were noted flying east from the vicinity of the roost at 11:45 a.m. CST., 1:15 and 3:30 p.m. At 4:30 an attempt was made to trace the route being taken. This ran six miles east from the mouth of Beaver Creek, then south-southeast for three miles along the railroad to a point one mile south of Haultain, and then southeast for about 14 miles where it was lost at 5:55 p.m. During this period of one hour and 25 minutes, 1,320 crows were observed along the route. (Between 7:25 and 8:00 p.m., 29,000 crows entered the roost from the north). If this was a migration from the area and if it went all day long it must have involved a lot of birds. Normally crows disperse from the roost at dawn.

WHITE-BREASTED NUTHATCH CACHING FOOD

by **Ron Austin**, Regina

On the afternoon of November 25, Margaret Belcher, Connie Pratt and myself noticed a White-Breasted Nuthatch on a piece of suet in the legislative grounds. This bird, after picking loose a piece of suet, would fly to another tree and hide this morsel of food in the rough bark of the tree. This done it would go back to the suet and begin the whole process again. I had observed this practice once before outside our apartment window and I suppose it is fairly common nuthatch behaviour.

Annual Report on the Whooping Crane Population

by **Fred G. Bard,** Director, Saskatchewan Museum of Natural History

Painting by F. W. Lahrman
Courtship Behaviour of the Whooping Crane, Aransas Refuge, 1960.

We know that readers of the **Blue Jay** like to have a brief report each year on the current status of the Whooping Crane population. This time there are two items of interest to report. In the first place, we know that 38 cranes are wintering at the Aransas National Wildlife Refuge this season. According to the report received from E. E. Crawford of the Branch of Wildlife Refuges, U.S. Fish and Wildlife Service, the 1961 arrivals from the north included five young of the year, but three adults were missing. The first Whooping Crane was sighted at the Aransas Refuge on October 15, and it was believed that it had arrived on October 14 when a cold front was reporting moving across the state. Before this date, an encouraging number of sightings along the flyway had been reported, and we should like to thank especially those who sent in reports to the Saskatchewan Museum of Natural History. It was not possible for us to go out from the Museum to field-check all these observations, but it is important for us to have the reports to get a general picture of the migration of the Whooping Crane. We urge you all to send any reports of Whooping Cranes observed in spring migration, 1962, to the Saskatchewan Museum of Natural History.

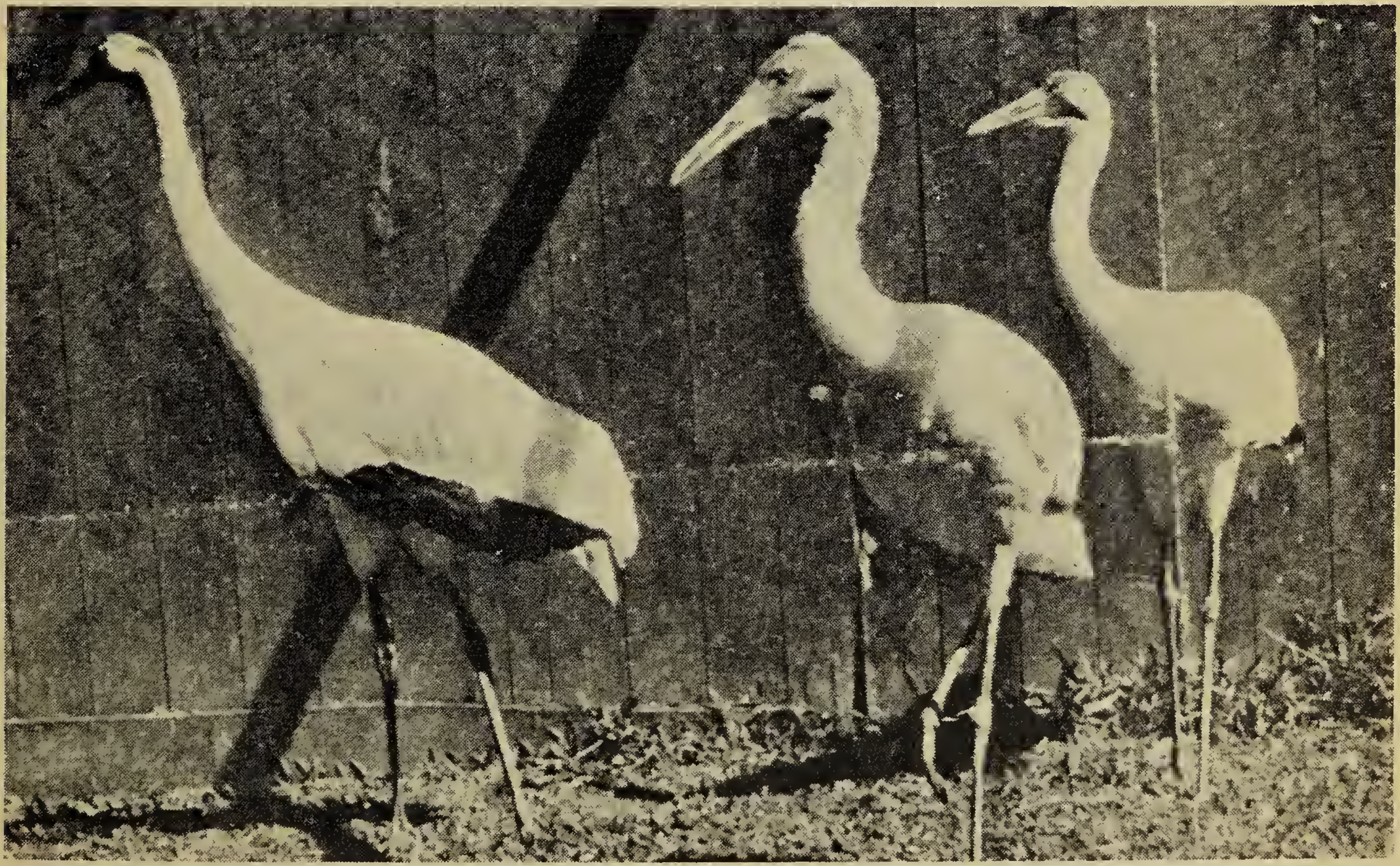
The Aransas Refuge, winter headquarters of the Whooping Cranes and the men who study them, now has on display a painting of the cranes in flight done by Museum artist Fred W. Lahrman. This painting was presented to the Refuge Manager, Huyson J. Johnson, by the Saskatchewan Department of Natural Resources at a conference of refuge managers held January 15-19 at Albuquerque, New Mexico.

The second item of interest is that a young crane has been raised in captivity this year at the Audubon Park Zoo in New Orleans, where

George Douglass is the superintendent. Parents are the world-famous Crip and Josephine, who have now raised four offspring, including the eight-month-old "Pee-Wee" that hatched last April. This means that there are now six birds in captivity in the Audubon Park Zoo. Fred Lahrman and I hope to see the young crane on our trip south next month.

S.M.N.H. Photo

Fred Lahrman (on the left) and the author hold the painting by Lahrman presented to the Aransas Refuge by D. N. R.



Reprinted from **Dixie** Magazine

Young crane at Audubon Park Zoo, New Orleans.

Interesting Bird Records from across the Prairies

A GRAY JAY (*Perisoreus canadensis*) seen at Skull Creek, near Maple Creek, in southwestern Saskatchewan this winter was reported by **Steve A. Mann** as a "first" for his district. The jay was noted in evergreens south of the house on November 21, 1961, and seen again near the house on November 24 and December 3 (the Sunday before Mr. Mann wrote to us about it). The jay appeared only briefly at the house, and then flew into the bush along the wooded Skull Creek. The Gray Jay (Canada Jay) has not been seen in the area before by Steve Mann who has lived all his life at Skull Creek, and it is not reported in the Cypress Hills by W. Earl Godfrey in his **Birds of the Cypress Hills and Flotten Lake Regions, Saskatchewan** (1950).

Along the North Saskatchewan River at the Borden bridge, a STELLER'S JAY (*Cyanocitta stelleri*) was observed on October 29, 1961, by **J. Bernard Gollop.** The Steller's Jay was seen in the sun at close range, with 7 x 50 binoculars. Interestingly, a Blue Jay was seen on the same day in the same place.

The Steller's Jay is not often recorded in Saskatchewan. It was included in the first provincial bird list, H. Hedley Mitchell's **Catalogue of the birds of Saskatchewan** (1924), on the strength of a specimen taken at Indian Head on May 24, 1923, by Geo. Lang. In C. Stuart Houston's check-list of **The Birds of the Yorkton District, Saskatchewan,** two records are given for the Yorkton district; a pair reported by Frank Baines as residing on a farm near Saltcoats one summer in the 1920's, and a close-up view of one at Yorkton seen in the spring of 1944 by Pauline Summers.

GOLDEN-CROWNED KINGLETS (*Regulus satrapa*) were noted in unusual numbers in fall migration (October 7-14, 1961) at Spirit Lake, north of Yorkton, by **William Anaka.** Small numbers were scattered throughout the woods everywhere during the week, the first time that Golden-crowned Kinglets have been observed in this area in any numbers. The first record of Golden-crowned Kinglets in the Yorkton district was submitted to the **Blue Jay** by William Anaka in 1956 (cf. **Blue Jay,** 14:119). On October 31 of that year a Golden-crowned Kinglet was identified in his yard, and it was noted then that Houston's list for the area (1950) did not include this species.

Sometimes records from previous years suddenly come to light that are worth recording. Recently a letter from **Donald J. Buckle** of Lady Lake, Saskatchewan, recalled seeing a male SCARLET TANAGER (*Piranga olivacea*) in early June, 1958. Buckle saw the bird when it "perched for several minutes in the upper branches of an aspen singing its 'hoarse Robin' song, flew to another aspen, and then flew off." He identified it by its contrasting red body and black wings and its song. Although there have been a number of other sight records of the Scarlet Tanager in Saskatchewan, no specimen has been taken in the province and the bird is not on the provincial check-list.

An INDIGO BUNTING (*Passerina cyanea*) was seen several times during late October, 1961, by **Mrs. Bill Richards** at 116 3rd Street, Saskatoon. Finally it was enticed into a banding trap there on October 30, and banded by Dr. C. Stuart Houston. It looked exactly like the female depicted in Peterson's new **Field Guide to the Western Birds.** It returned to Richards on November 1 and was last seen November 2.

This was the fourth record for Saskatchewan—and the first Indigo Bunting to be banded in the province. Previous Saskatchewan records were: two seen at Indian Head in June, 1890, by George Lang (Mitchell, **Can. Field-Nat.** 38:115, 1924); a male collected at Estevan May 28, 1893 by D. L. Thorpe and reported by Ernest Thompson Seton (**Auk** 25: 454, 1908) and a pair seen near Armley on June 23, 1927 by Maurice G. Street (C. Stuart Houston and Maurice G. Street, 1959, **Birds of the Saskatchewan River**).

An interesting 1961 Manitoba breeding record of the Indigo Bunting was sent to the Prairie Nest Records Scheme by **Gordon Smith** of Winnipeg who noted a nest, July 7, 1961, near Grand Beach.

In addition to the Saskatchewan records we have a record of a WANDERING TATLER (*Heteroscelus incanum*) seen at Jasper, Alberta, by **E. Otto Höhn** of the University of Alberta. Professor Höhn recorded his observation in this way: "The bird was seen on the rocky shore of Patricia Lake near the town of Jasper in Jasper National Park on July 2, 1961, at a distance of about 10 yards. It was observed through 10x50 binoculars. I noted the following points about it at the time: size about that of a Greater Yellowlegs, but more compact in build with relatively thicker and shorter legs; bill black or dark grey, legs yellow. The bird often teetered in the manner of a Spotted Sandpiper. In flight the entire upper surface was an even grey, i e., there were no wing bars and no rump markings. The underparts were irregularly marked with dark grey and white, but did not show the regular barring. I've seen adults of this species on the B.C. coast. The call note was 'tee tee tee tee tee'." Professor Höhn refers to this as the third record of the species for Alberta. The only record given for Alberta in the **Birds of Alberta** by W. Ray Salt and A. L. Wilk (1958) is a specimen collected May 30, 1938, on the east shore of Swan Lake near the Alberta-B.C. boundary west of Grande Prairie. The bird is not on the Saskatchewan checklist.

TOWNSEND'S SOLITAIRE AT FORT QU'APPELLE

by **E. Manley Callin**, Fort San

This item is written partly to report an extremely rare visitor to this area and partly to describe another personal experience in regard to the value of that "second look". Criticism is frequently levelled, and rightly so, at hasty identifications or "snap judgments" because they may result in a common bird being misidentified and reported as a rare species. However, it is well for us to remember that the danger of the "snap judgment" also works in reverse as it may result in a rare species being passed by in haste.

At 1.30 p.m., on Nov. 10, 1961, I stepped outside our house to return to the office and a casual glance revealed a dark robin-sized bird with fairly long tail reaching for berries in a near-by Mountain Ash. Further details were not clear as I was facing a bright sun and in my hurry I was tempted to accept it as a Pine Grosbeak as that species had been seen many times daily in the area. Fortunately the bird turned at this moment and a light-colored patch was seen on the wing instead of the wing bars of the Grosbeak. I immediately approached the bird from another direction and thus identified my first Townsend's Solitaire in almost 36 years of observation. Though it twice flew a short distance, I eventually watched it with binoculars from a distance of about 25 feet as it fed leisurely upon hawthorn berries or merely perched in its noted attitude of quiet solemnity.

As most of the readers know, the normal home of the Solitaire is in the mountains and foothills but it is noted as an erratic wanderer in spring and fall. Though an occasional bird has been seen at Regina almost every year since 1954, it is considered rare at Regina and is much rarer to the north and east. As a matter of fact I have records of about 20 observers for the eastern half of the Qu'Appelle Valley area, some of the records dating back slightly over 100 years, and not one of the observers has listed the Solitaire.

Editor's Note: The Townsend's Solitaire reported at Regina on the Christmas Count, December 24, 1961, was still in the same location in a small park in the north of the city at the time of **The Blue Jay** going to press (noted January 20). Active and healthy in appearance, the bird seemed prepared to spend the winter in Regina, as one did in 1960-61. (cf. Margaret Belcher's **Birds of Regina.** 1961. Spec. Publ. No. 3, S.N.H.S.).

BANDED PURPLE FINCH RECOVERED AT YORKTON

by **Larry A. Morgotch**, Yorkton

When Carol Beaumont and Charyl Wiley of Yorkton reported finding a banded Purple Finch along a city

(Continued on page 39)

Some
Bird Observations along the La Ronge-Churchill River and Hanson Lake Roads

by **Douglas E.** and **Dorothy R. Wade**, Regina

Late in the summer of 1961 we made some interesting observations of bird life on a short trip (August 31-September 4) to La Ronge and up to Otter Rapids, Mile 54 on the La Ronge-Churchill River Road (Mile references are to the "Mile" markers along the road, beginning with La Ronge as zero). The La Ronge-Churchill River Road, formerly known as the La Ronge-Uranium City Road, now extends to Otter Rapids where a bridge crosses the Churchill River. Records from this area and the Hansen Lake Road are limited; no attempt was made to search the literature. However, we felt it was worthwhile to publish our observations.

August 31, 1961, was very warm. En route north, we saw a Turkey Vulture soaring over the South Saskatchewan River about six miles north of St. Louis. On the same day, at the town of La Ronge, two Pigeon Hawks were observed flying over the muskeg (Mile 1). At Mile 1.5 there were a dozen Ravens and about the same number of Common Crows, presumably feeding at a nuisance grounds.

At Missinipi town-site (Mile 51) on the Churchill River, where we camped for one night, a Great Gray Owl treated us to a variety of calls and a low-level flight over our camp. Near by, earlier that evening, we had seen an Indian boy with his dog, and when we first heard the owl, we thought it was the boy "voice-whistling" for his dog; then later the owl's calls reminded us of the cries of a Snowshoe Rabbit in distress. It was not until the owl flew over that we were able to pin down the source of the calls. The owl called while in flight as well as when perched.

September 1 started out warm, but the temperature dropped steadily all day and there were intermittent showers.. One mature Bald Eagle was seen while we were canoeing about four miles east of MacKay Lake (Mile 37) on an un-named lake near Contact Lake. Also observed while canoeing on a route east of MacKay Lake were two adult and one immature Goshawks, one Black-capped Chickadee, two Ruby-crowned Kinglets, and at least three Belted Kingfishers. On Contact Lake there was one adult Common Loon, accompanied by two young loons, which were about three-fourths grown. The loons swam away from us and did not attempt to fly.

September 2 was cold and windy all day, with morning temperatures ranging about 38°. At MacKay Lake we caught a passage of migrating Canada Geese, when a flock of 60 in V-formation came over, moving rapidly southward. One Mourning Dove flew across the road at about Mile 33. There was a small wooded muskeg adjacent to the road on one side. At Lynx Lake along the Road, we saw three Water Pipits. They accompanied us southward on the road for at least three miles. Three Eastern Kingbirds worked near us, catching insects at Lynx Lake. At a muskeg pond, partly filled in with road fill (Mile 27), we had an American Golden Plover in fall plumage) under careful observation with binoculars for at least half an hour. The plover was feeding in the wet silt shore of fill material and muskeg push-up. The same pond held three female Buffleheads.

Farther down the road along a parallel stretch of Waden Bay (an arm of Lac La Ronge), we were able to spot 11 Pintails, eight Lesser Scaup, 10 Mallards, five Gadwalls, and an unlisted number of Redheads, Ring-necked Ducks, and Green-winged Teal. The water in the bay was low and vegetation rank and high, making it impossible to get precise counts on all the ducks, so there were undoubtedly many more unrecorded.

September 3 was sunny and cold, with temperatures below and near freezing. At Peter Gregg's home in La Ronge, a Roughlegged Hawk flew

Alan Wade examining Belted Kingfisher nest hole, La Ronge-Churchill River Road

over. From La Ronge to Waskesiu we listed these birds: one Slate-colored Junco, 12 Cedar Waxwings, one Pigeon Hawk, about 20 Common Ravens, one Spruce Grouse, one dead Ruffed Grouse, one Cooper's Hawk, and (about two miles north of Waskesiu) one Black-billed Magpie.

On September 4, we were travelling from Candle Lake over to the Hanson Lake Road, cutting across on a road that runs just south of Whiteswan Lake. We then went up the Hanson Lake Road, taking a side trip into Lower Fishing Lake, the narrow Hills Tower Road, and finally back out up to Little Bear Lake. En route we saw one Black Bear, eight White-tailed Deer, elk and moose tracks, and the following birds: many Slate-colored Juncos, three Magnolia Warblers, one Red-tailed Hawk, one Osprey, many small flocks (10 to 30 birds in a flock) of Cedar Waxwings, about 200 Myrtle Warblers (apparently coming through in large numbers), two Yellow-shafted Flickers, three Spruce Grouse hens, one Rough-legged Hawk, and one male Sparrow Hawk. At Little Bear Lake we spotted 20 Horned Larks and at the Torch River bridge on the Hanson Lake Road, eight Horned Larks.

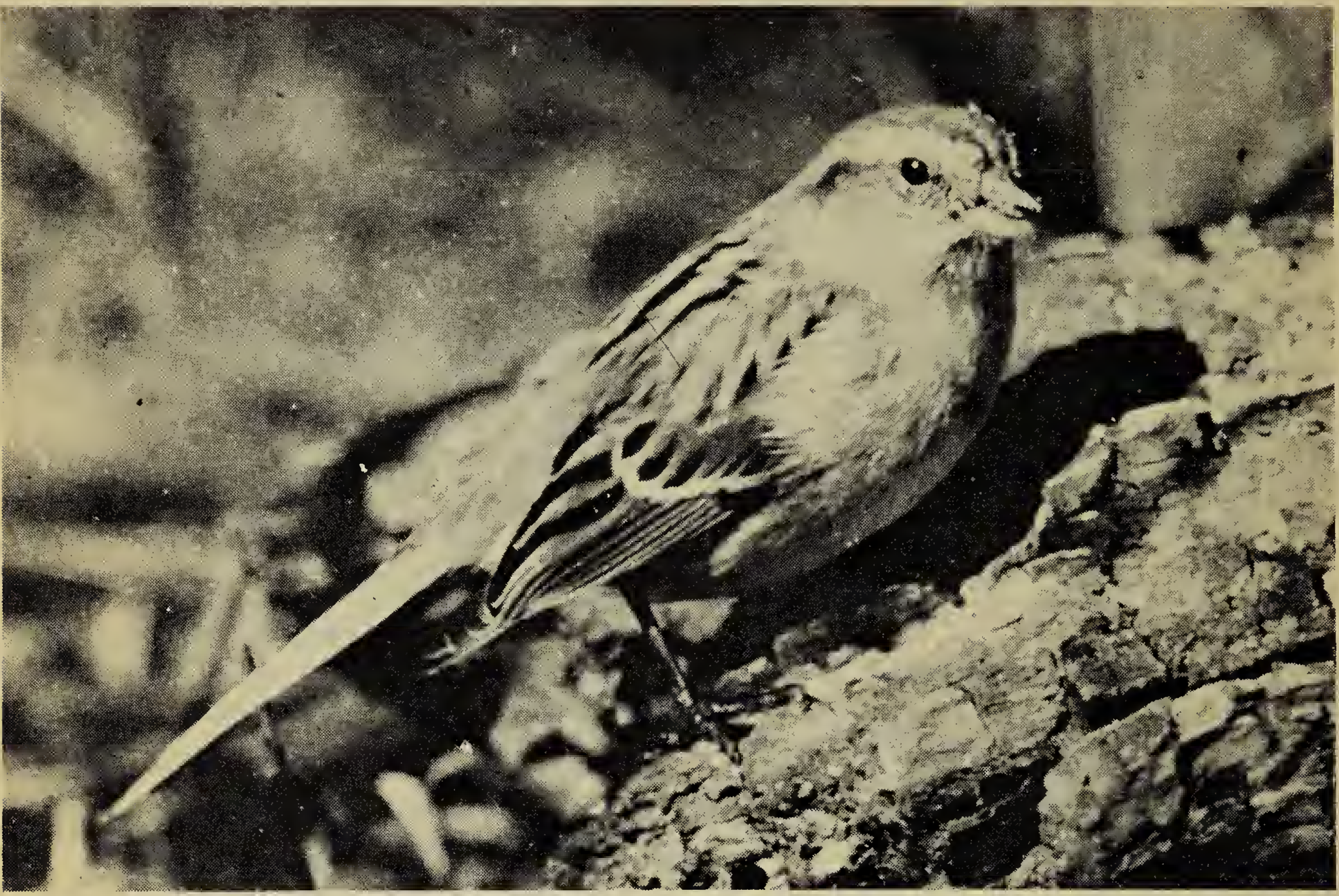
On a previous trip to La Ronge, D. E. Wade saw a Mourning Dove fly across the road. The location was an extensive burned-over, wooded muskeg, about 17 miles south of the town of La Ronge. On the La Ronge-Churchill River Road, at Mile 7, on August 17, 1960, we saw an adult Belted Kingfisher fly out from a hole in a borrow-pit bank adjacent to the road (see figure). Earlier in the summer the pit had contained water, but it was dry when we saw it. The nearest water available for fishing was a creek about half a mile away. The hole was in compact sand and contained young which we could hear.

On August 18, 1960, while canoeing on MacKay Lake, we watched two Ravens harassing a Goshawk. The Goshawk successfully drove the Ravens away from a point of land above which we could see the Goshawk flying at different times while we were in viewing distance.

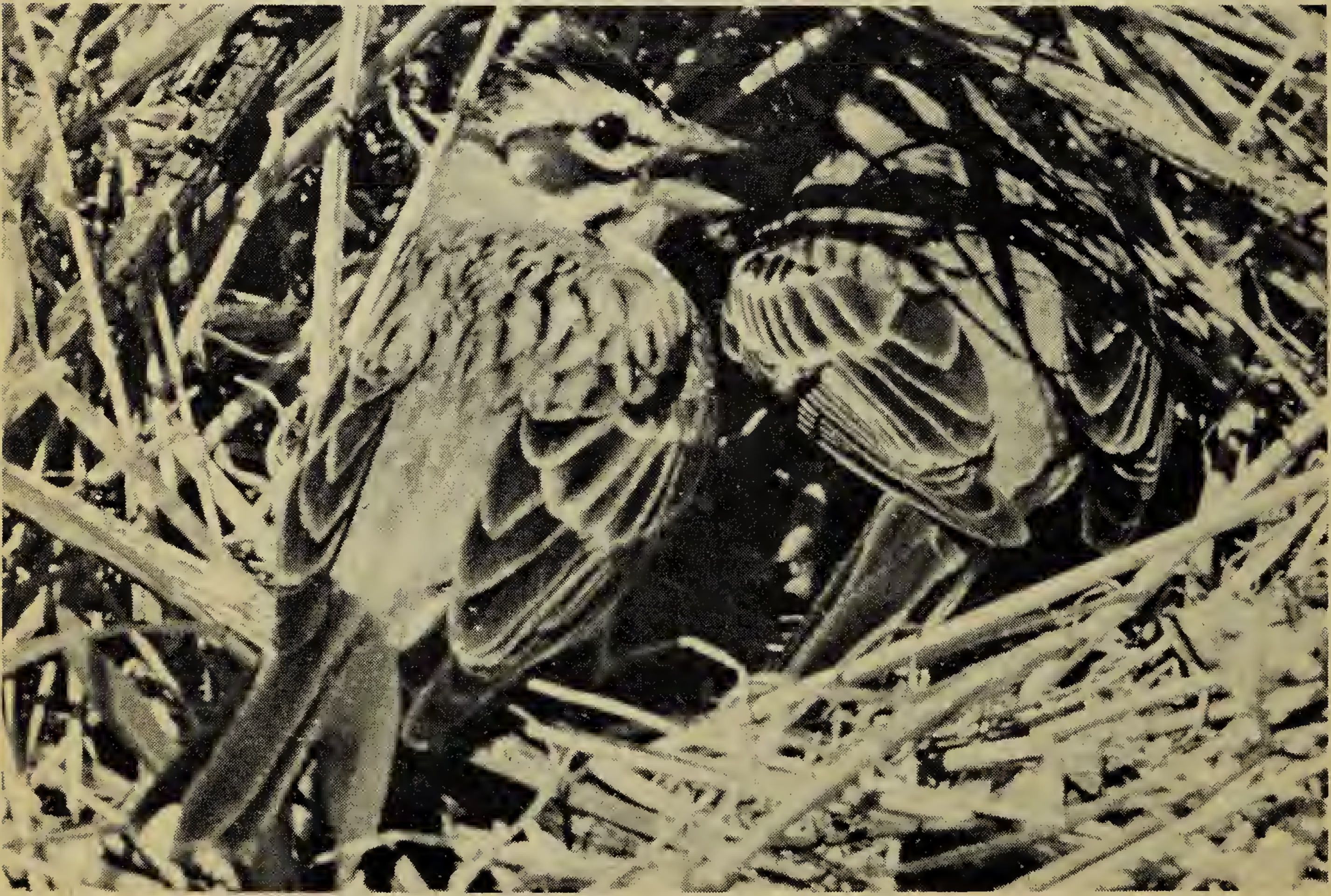
Both of the roads we have mentioned have penetrated wild country and there are few settlements. The Department of Natural Resources is establishing new camp sites on these roads and adjacent lakes. The road north out of La Ronge passes through Pre-Cambrian country, whereas the country traversed by the Hanson Lake Road is largely glacial till and quite sandy in places with much muskeg. The latter road will eventually end at Creighton near Flin Flon, but will not be open for general traffic until late in 1962. Enquiries concerning these roads, canoe routes, and camping should be directed to the Department of Natural Resources, Regina.

Some Saskatchewan Finches

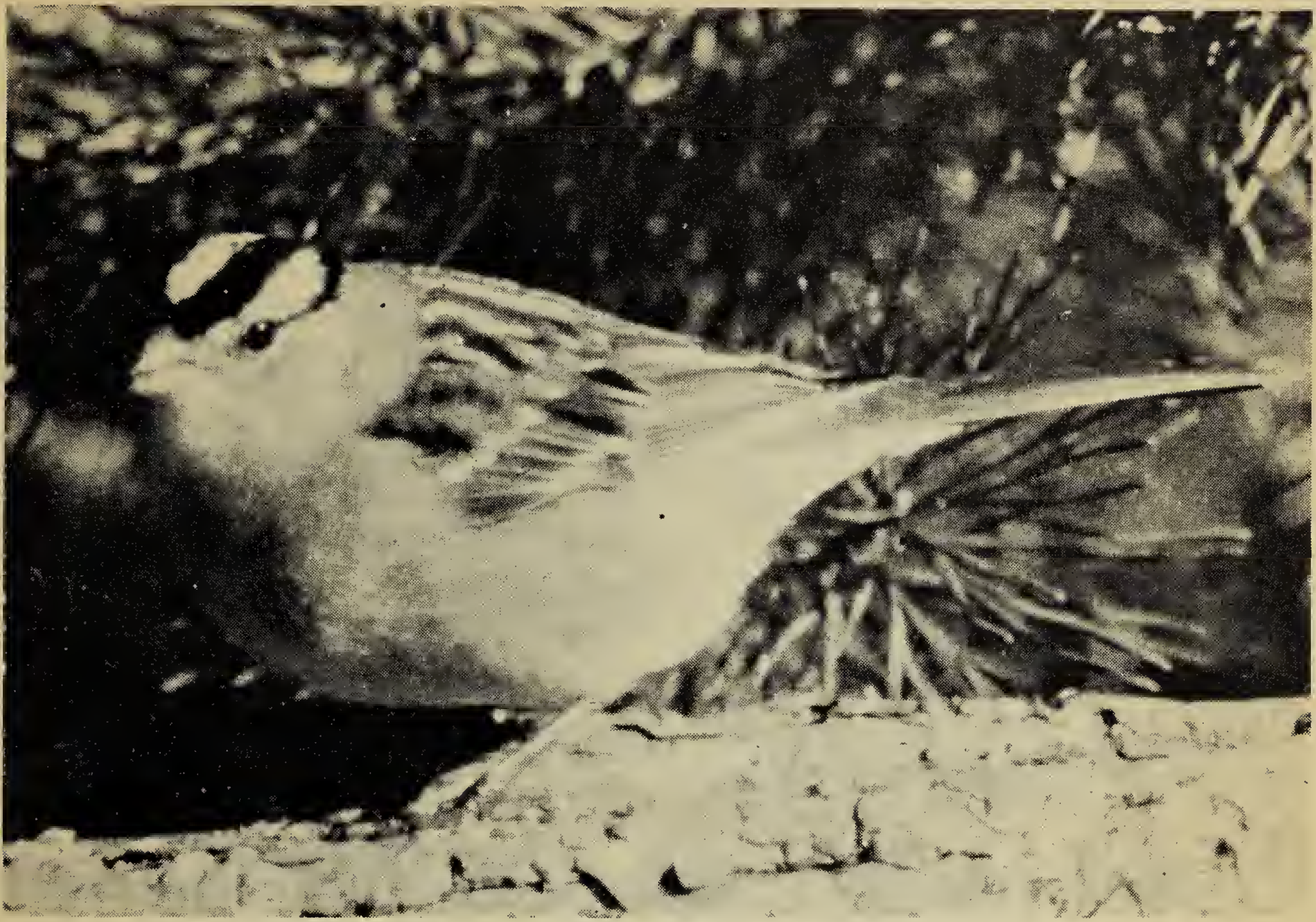
Photographed by **Doug Gilroy**, at Boggy Creek, Regina, 1961



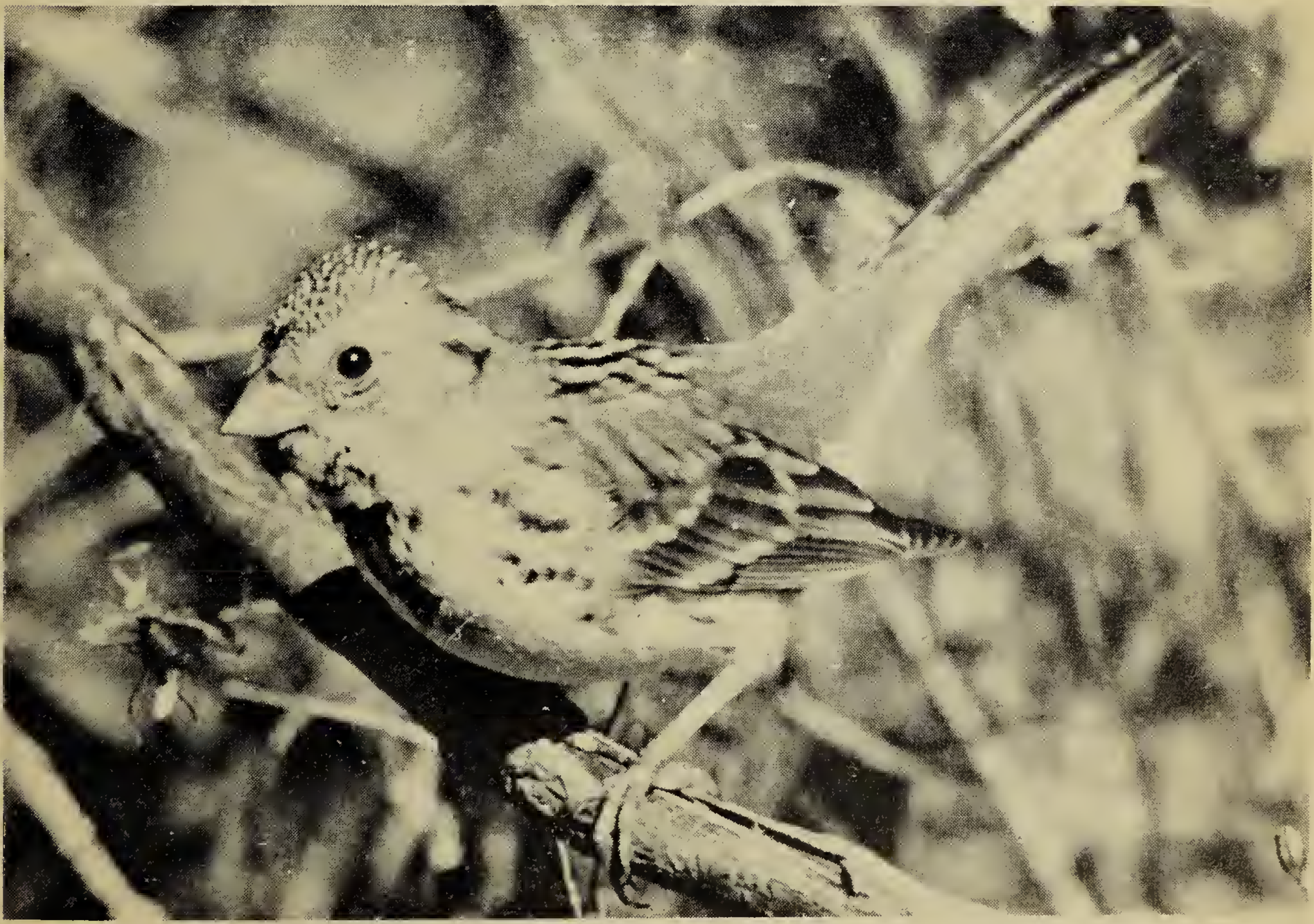
TREE SPARROW, an early spring migrant.



LARK SPARROW at nest. The female remained on the nest to shade the young during the hot weather, and the male brought food to the female and young.



WHITE-CROWNED SPARROW, a conspicuous migrant sparrow.



HARRIS' SPARROW in autumn plumage. Note how cardinal-like this pose is.

Apparent Breeding Record of Turkey Vulture along South Saskatchewan River

by **Dave Santy**, Beechy

In mid-September, 1961, Mr. Gordon Prior caught a young Turkey Vulture (*Cathartes aura*) in the South Saskatchewan River hills near his farm in the Demaine district. The bird had a broken wing tip. By the efforts it made to escape at the time of its capture, Gordon believes the bird could have taken flight but for the broken wing. The appearance of the wound suggested that the accident had happened some time before, possibly when the bird was still a fledgling. After capturing it, Gordon provided food for it for over two weeks—its daily diet was a jack rabbit weighing more than the bird itself.

Showing fear at first, the vulture soon became used to people and even demanded attention. In the end it was taken to the Moose Jaw Wild Animal Park.

The head of the young vulture had not yet turned red. It had a sparse growth of black hair which Gordon described as a "crew cut"!

We have seen vultures in this territory at intervals dating back to the early 1920's. As they were usually in pairs we formed the belief that they nested here, but this find of a young bird is the first tangible evidence to support the belief.

Editor's Note: Among the birds sighted by Ralph Carson on a 10-day expedition into the South Saskatchewan River area this past summer for the Saskatchewan Museum of Natural History was an adult Turkey Vulture observed June 15, 1961, at Swift Current Creek.

Unusual Nesting Sites of Brown Thrasher and Yellow-Shafted Flicker

by **P. Laurence Beckie**, Bladworth

On June 11, 1961, I photographed a Brown Thrasher (*Toxostoma rufum*) at its nest in an unusual location. I had found the nest several days before when I took some empty cans to a stone pile. As the cans fell with a rattle a Brown Thrasher flew out from somewhere in the garbage heap. I soon found a nest with eggs built on a branch of a fallen dead tree. The dead branch protruded into an old round wash tub standing on its side, so the nest was sheltered in a quite unusual way. I visited the nest a few days after and found the Brown Thrasher sitting tight in defiance of my close approach. On my next visit in late July, the nest was naturally deserted; but I trust that the young were safely raised in this unusual nest site. For notes on a somewhat similar nest-site of this species see **Blue Jay**, 15:103.

In 1944 I had a Brown Thrasher nest in a box in some poplars. The nesting box was a crude one, placed in a tree about 12 feet above the ground. Bent (1948. **Life Histories . . . Thrashers . . .**) cites two records of the Curve-billed Thrasher (*Toxostoma curvirostre*) nesting in old woodpecker holes in trees, but the habit is certainly rare in this group. Apparently neither the Curve-billed Thrasher nor the Brown Thrasher has been recorded nesting in nest-boxes and such a site must be unusual.

Another oddity I found last summer (1961) was a family of Yellow-shafted Flickers (*Colaptes auratus*) nesting in a telephone pole below ground level. The dwelling had been chipped out years ago by predecessors of the 1961 tenants. Then the pole had rotted off and was reset with the entrance to the hole now being only six inches above the ground level. The inside cavity was about one foot deep, so the young were actually raised below ground! The elusiveness of the parents was unbelievable. I drove past the post nearly once a day during their occupancy and I didn't know it was in use until my brother Sam heard the buzzing of the young as he passed on his way to school.

(Continued on page 33)

Hunting Behaviour of a Swainson's Hawk

by **Bill Richards**, Saskatoon

Almost everyone on the prairies has observed the familiar sight of gulls following the farmer's implements waiting for tidbits of food to be uncovered. This summer I observed another way in which man's activities have been used to advantage in providing food for a Swainson's Hawk.

During the month of July, 1961, I was working on a railway mowing machine. Our job was to mow the weeds, grass and brush along the track, cutting a swath about ten feet wide on each side. As we clattered along, we flushed a steady stream of nesting birds, partridges, rabbits, and mice which scurried away out of danger as we passed by.

While working our way eastward through the Bad Hills near Greenan, Saskatchewan (about 25 miles east of Eston), I became aware of a shadow of a large bird which was criss-crossing the railway right-of-way. I glanced up and saw a Swainson's Hawk following us quite closely. His patrolling paid off, for a short time later he swooped down and nabbed a mouse by the fence.

Evidently the hawk realized that here was an opportunity to cash in on some fairly easy pickings. The noise of our machines provided the "brush-beating" necessary in flushing the mouse while the hawk waited for the opportune moment to strike. I considered it smart behaviour on the part of the hawk as I watched it fly away with its prize. Sometimes farmers tell of seeing hawks circling over them as they cultivate a field, watching in a similar way for rodents flushed from cover.

An Outbreak of Botulism in the Regina Waterfowl Park

by **Rick Sanderson**, Regina

Returning to the Regina Waterfowl Park on September 4, 1961, after a month's absence, I noticed many dead and crippled waterfowl and shorebirds. Mr. Elmer Fox, and later the Department of Natural Resources, suggested this was botulism.

A report of a similar outbreak which occurred at Old Wives' Lake is contained in the July, 1960, issue of the **Blue Jay**.

I estimated that at least 300 birds were affected. Of the 264 birds of 18 species that were found with the disease, 100 were Green-winged Teal, 43 Soras, 38 Mallards, 34 Blue-winged Teal, and 25 Lesser Yellowlegs. Other species represented, but in no substantial numbers, were: Pied-billed Grebe, Gadwall, Pintail, American Widgeon (which was found to have been banded one month earlier in northern Saskatchewan), Shoveler, Ruddy Duck, Coot, Greater Yellowlegs, Pectoral Sandpiper, Least Sandpiper, Ring-billed Gull (one immature), Yellow-headed Blackbird.

The area of the Waterfowl Park that appeared to be the hardest hit was the shore of what is called "Goose Island," directly south of the city power house. Nearly all of the diseased birds were found here where waterfowl and waders congregate because there is a lot of open shore and where the water is rather stagnant in late summer. Of those species of ducks that frequent deeper water, no dead were found.

The number of dead Soras (43) found within such a confined area is striking. Of these 40 were found among the reeds on the north shore of Goose Island, all in an upright position.

Green-winged Teal evidently suffered the greatest loss in number, with a total of 100 affected birds being found. There were a large number of this species in the Park at the time.

This is apparently the first time such an outbreak has occurred in the Waterfowl Park. Botulism is an uncommon disease, occurring in extremely dry, hot years when duck populations are already drastically reduced by poor nesting conditions.

Snowy Owl Banding Project

by **Bernard C. Haysom,** President, Sask. Falconry Association, Regina

Photo by Fred G. Bard

Members of the Saskatchewan Falconry Association with their president (third from left).

In the fall of 1961 the Saskatchewan Falconry Association embarked on a trapping and banding program. As winter was approaching, we decided that the Snowy Owl (*Nyctea scandiaca*) would be the best species to study. The base of our operations was to be the Association's club house (affectionately known as the "Coop") a few miles west of Regina. Here is where we set up our Norwegian Goshawk trap. Luck smiled on us and in two days of operation we had a male and a female Snowy.

Unfortunately, the weather became blustery and we had to close down our trap since there was a chance we could not get out and check it if the roads were blocked. We reasoned that is was better to lose the chance of banding an owl than to lose an owl in the trap because we could not get to it. However, we did set it again later, and in approximately two weeks of actual operation, we have trapped and banded two males and one female. We also had a return of the female, which was released nine days before at the TV Station, 15 miles away from the trap.

The next step in our program is road trapping. We have already been out on one road-trapping expedition (January 20) and were successful in trapping one female. For this we use Bal Chatris traps built from specifications sent to us by Mrs. Hamerstrom of the Wisconsin Conservation Department. These are smaller, more mobile and easily carried in the car, whereas the "Gos" trap is big and cumbersome (about 3x4x5 ft.) and so more suitable for a permanent location.

It is our hope to be able to contribute in some small way to Mrs. Hamerstrom's program. Correspondence with her leads us to believe that we can do just that. Later, we plan to expand and band as many species of birds of prey as possible. We shall be able to band young birds when we are locating nests to get birds for our falconry program. It is our intention to conduct our program of banding as scientifically as possible so that our findings may be used.

We have great hopes for this winter, as all reports say that this will be a banner year for Snowies. We would appreciate receiving any reports of Snowies within a distance of 40 miles of Regina. These reports can be sent to: The Saskatchewan Falconry Association, 750 Cameron Street, Regina.

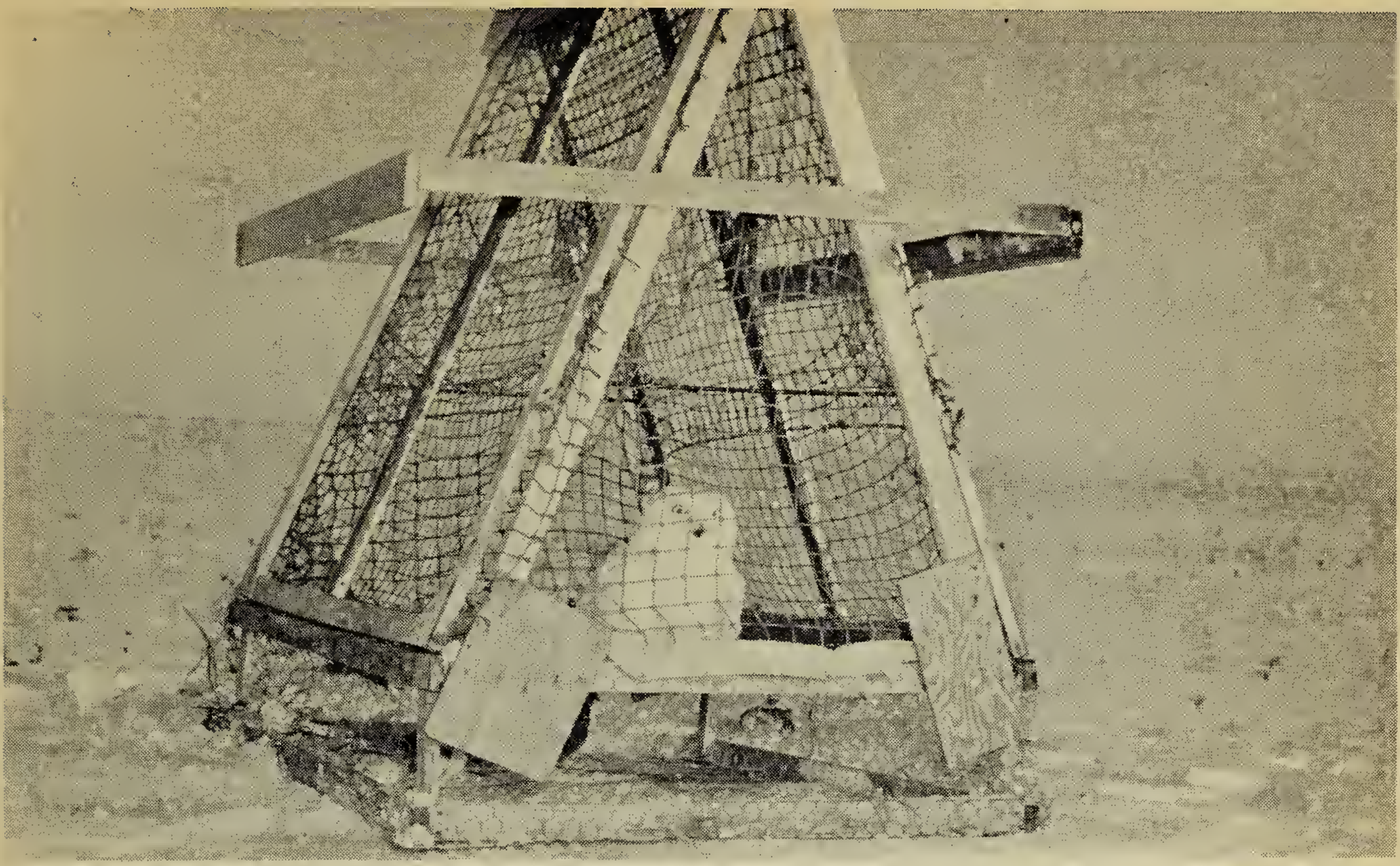


Photo by Fred G. Bard

Snowy Owl trapped in Norwegian Goshawk trap.

DEFORMED HAIRY WOODPECKER

by **George Chopping**, Dubuc

On December 8, 1961, a female Hairy Woodpecker approached our feed tray quite shyly. When it settled on the feed tray it almost toppled over. It tried a couple of times to get its balance to feed. On looking more closely I found to my surprise that it had only one foot. The other foot looked as if the circulation had been cut off, for it was all shrivelled up and we could hardly see it. Later on, we saw the bird again. Sometimes it would land on the tray and keep its balance, but other times it had to try two or three times before it would get its balance. It has not been seen since the cold weather came.

REQUEST FOR INFORMATION

MIGRATION OF BUFFLEHEADS—A study of the Bufflehead is under way, and information on the migration of that species is needed. Data required includes first arrival dates, peak date of migration and peak numbers, and departure dates. Only birds actually believed to be migrants should be listed, but, where pertinent, other data on wintering or summering numbers should be included. If only infrequent visits are made to areas frequented by Bufflehead, the statement "present by (date)" is preferable to "arrival (date)", and "last seen (date)" to "departure (date)". Information is solicited particularly for the spring migration of 1962, but it is hoped that interested observers will report any data they may have obtained in the past; requests for fall migration data will be made later. It is planned to colour-mark some Buffleheads in Maryland, New York, and Oregon, during the winter of 1961-62, and observers should take particular note of any Buffleheads bearing bright patches of red, yellow, or orange. Please send information on the Bufflehead to: **A. J. Erskine, Canadian Wildlife Service, P.O. Box 180, Sackville, New Brunswick.**

COLONIAL BIRDS—Since 1961 was especially dry, it is feared that many colonial birds (gulls, pelicans, etc.) will have poor nesting conditions in 1961. Please report abandoned colonies or new colonies to the **Saskatchewan Museum of Natural History, Regina.**

TURKEY VULTURE—The Museum would like to do film footage on a vulture's nest if any reader finds a nest in 1962. Send particulars to the **Saskatchewan Museum of Natural History, Regina.**

Fourth Annual Report of the Prairie Nest Records Scheme

by **Elmer L. Fox,** Regina

The Prairie Nest Records Scheme has completed its fourth year of operation. The number of cards received this year was somewhat smaller, but excellent records were submitted on many of these. There were fewer records of breeding waterfowl, presumably owing to the drought conditions prevailing throughout the Prairie Provinces. By January 15, 1962, 37 contributors had submitted 814 cards for 135 species.

A summary of the first four years of the Scheme's operation is being prepared, and this mimeographed report will be sent to all contributors. A limited number of copies will be available for others who write for them to the Prairie Nest Records Scheme.

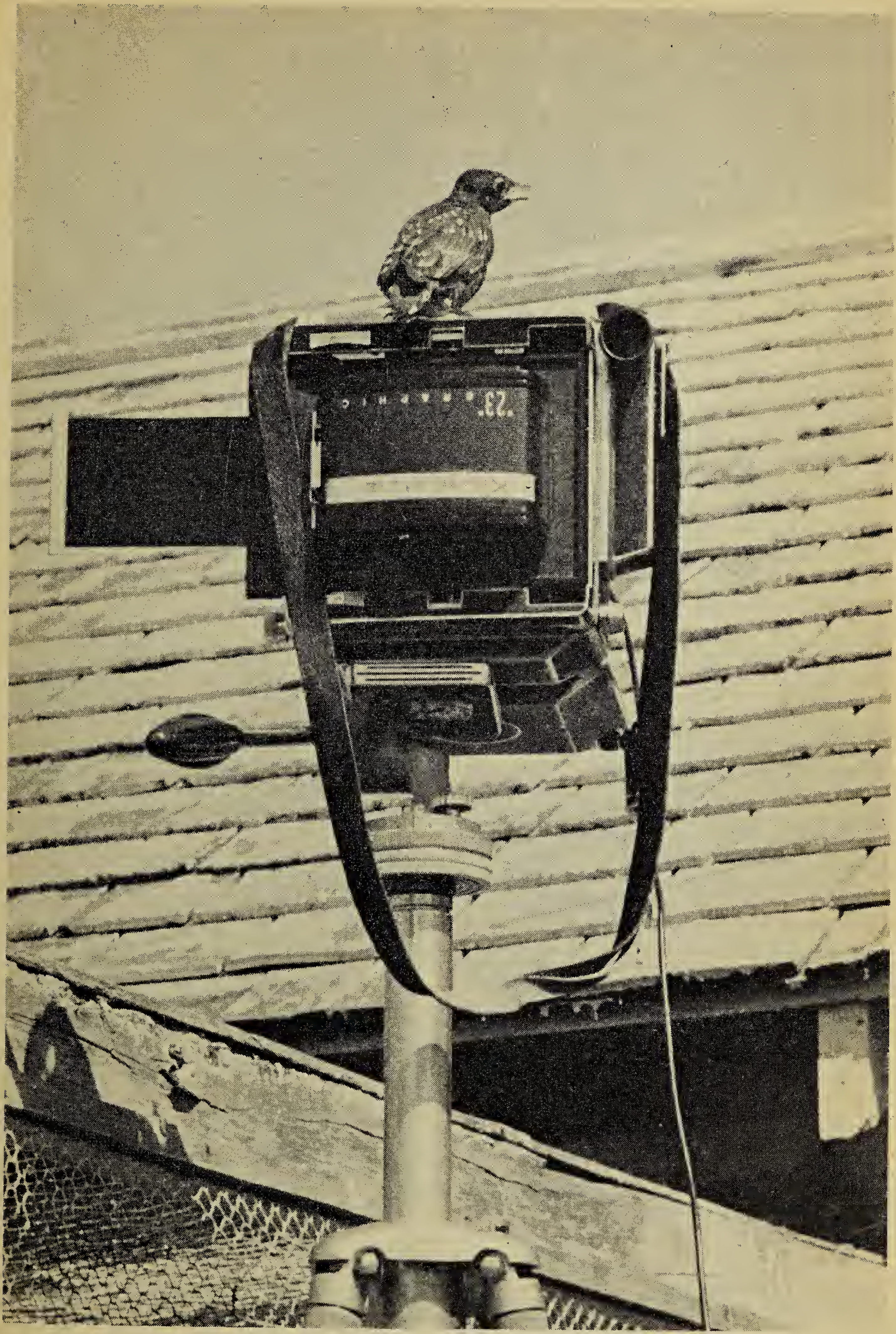
Similar nest record schemes are in operation in the Maritimes, in Ontario, and in British Columbia. There is no coverage for Quebec. The territory covered by the Saskatchewan Natural History Society's Prairie Nest Records Scheme includes the Prairie Provinces and the Northwest Territories.

A new supply of cards for 1962 will be sent out to all 1961 contributors. New contributors who have nesting information to submit should request cards. For new contributors, we should like to point out again that information is required on even the common birds breeding in your area, and that as much information as possible should be recorded on each nest found. A card recording observations from the time the eggs are laid until the young leave the nest is more valuable than a single observation. We urge you, too, to disturb as little as possible the birds you are studying.

Send requests for record cards or for the report on the Scheme's operation to: The Prairie Nest Records Scheme, Saskatchewan Natural History Society, Saskatchewan Museum of Natural History, Regina.

CONTRIBUTORS: W. Anaka, Genevieve Belliveau, F. Brazier, D. Buckle, H. Burns, J. R. Caldwell, B. Capusten, D. Chandler, H. Copland (with W. Johnston, H. Hasford, G. Smith), R. Derkutch, E. A. Dodd, E. Fox (with R. Fox), G. Gletcher, Joyce Gunn, H. Hasford, D. Hatch, H. Hedger, R. Klimach, E. Kuyt, L. V. and V. B. Latta, J. Lane, R. McCall, Mamie McCowan, S. A. Mann, S. Manu (with J. Bennett), W. J. Merilees, Daisy Myers, R. W. Nero (with R. Carson), K. D. Patton, J. M. Provick, Barbara Robinson, R. Sanderson (with W. Fleming), V. Schmidt, G. Smith, L. Tohr, E. J. White, S. Zazelenchuk.

SPECIES RECORDED: Common Loon (1), Horned Grebe (5), Eared Grebe (8), Pied-billed Grebe (8), Double-breasted Cormorant (4), American Bittern (1), Whistling Swan (2), Canada Goose (6), White-fronted Goose (3), Mallard (21), Pintail (6), Green-winged Teal (6), Blue-winged Teal (2), American Widgeon (3), Shoveler (5), Redhead (2), Canvasback (5), Lesser Scaup (2), Ruddy Duck (5), Red-breasted Merganser (1), Sharp-shinned Hawk (1), Cooper's Hawk (4), Red-tailed Hawk (6), Swainson's Hawk (3), Rough-legged Hawk (1), Ferruginous Hawk (1), Bald Eagle (3), Marsh Hawk (4), Gyrfalcon (1), Pigeon Hawk (1), Sparrow Hawk (2), Spruce Grouse (1), Ruffed Grouse (1), Willow Ptarmigan (3), Sharp-tailed Grouse (5), Gray Partridge (2), Virginia Rail (2), Sora (2), American Coot (23), Piping Plover (2), Killdeer (22), Common Snipe (1), Upland Plover (2), Spotted Sandpiper (2), Willet (4), Least Sandpiper (1), Marbled Godwit (2), American Avocet (5), Wilson's Phalarope (8), Long-tailed Jaeger (1), Herring Gull (1), Franklin's Gull (1), Common Tern (6), Arctic Tern (1), Black Tern (4), Rock Dove (2), Mourning Dove (15), Black-billed Cuckoo (17), Screech Owl (1), Great Horned Owl (7), Hawk Owl (2), Burrowing Owl (1), Long-eared Owl (1), Short-eared Owl (4), Ruby-throated Hummingbird (1), Yellow-shafted Flicker (5), Red-headed Woodpecker (1), Downy Woodpecker (3), Eastern Kingbird (14), Western Kingbird (6), Eastern Phoebe (24), Traill's Flycatcher (1), Least Flycatcher (5), Dusky Flycatcher (5), Western Wood Pewee (1), Horned Lark (9), Tree Swallow (13), Bank Swallow (6), Rough-winged Swallow (1), Barn Swallow (46), Cliff Swallow (6), Blue Jay (2), Black-billed Magpie (12), Common Raven (1), Common Crow (19), Black-capped Chickadee (3), House Wren (27), Long-billed Marsh Wren (5), Short-billed Marsh Wren (4), Catbird (10), Brown Thrasher (8), Robin (43), Hermit Thrush (1), Swainson's Thrush (1), Gray-cheeked Thrush (3), Veery (2), Mountain Bluebird (7), Sprague's Pipit (1), Cedar Waxwing (11), Loggerhead Shrike (2), Starling (8), Red-eyed Vireo (4), Warbling Vireo (6), Yellow Warbler (13), Palm Warbler (1), Ovenbird (1), Yellowthroat (2), House Sparrow (4), Bobolink (3), Western Meadowlark (10), Yellow-headed Blackbird (29), Redwinged Blackbird (42), Baltimore Oriole (3), Brewer's Blackbird (13), Common Grackle (7), Western Tanager (1), Rose-breasted Grosbeak (1), Indigo Bunting (1), Purple Finch (1), Hoary Redpoll (1), Pine Siskin (3), American Goldfinch (2), Lark Bunting (1), Savannah Sparrow (14), Baird's Sparrow (1), Vesper Sparrow (19), Lark Sparrow (2), Slate-colored Junco (3), Tree Sparrow (8), Chipping Sparrow (6), Clay-colored Sparrow (13), Harris' Sparrow (3), White-crowned Sparrow (2), Song Sparrow (11), Chestnut-collared longspur (6).



The Photographer's Nightmare

Photo by Hans Dommasch

Twentieth Annual Saskatchewan Christmas Bird Count, 1961

Edited by **Mary Houston**, Saskatoon

The Regina observers organized by Frank Brazier set an all-time provincial record this year, sighting 37 species on December 24, 1961. They also added the only new species — a Gadwall — to the 105 species previously observed in Saskatchewan during twenty years of Christmas counts. They sighted a Townsend's Solitaire for the second successive year.

Saskatoon set a record for the number of observers — 37 people braved a "40 below zero wind chill temperature."

Snowy Owls were uncommon for the fourth successive year, being seen in only three localities. No Goshawks were seen at all! A total of 58 species was seen this year.

BATTLEFORD, Sask. Dec. 26; 30 miles by car and 4 miles on foot in 5½ hours; temp. -16°; wind N.W. at 15 mph.; 18 inches of snow. 14 species, 259 individuals. Ruffed Grouse, 11; Sharp-tailed Grouse, 87; Ring-necked Pheasant, 2; Rock Dove, 77; Great Horned Owl, 1; Hairy Woodpecker, 1; Downy Woodpecker, 1; Black-billed Magpie, 7; Black-capped Chickadee, 11; Bohemian Waxwing, 54; Starling, 1; Evening Grosbeak, 3; Pine Grosbeak, 1; Snow Bunting, 2.—**Spencer Sealy.**

BLADWORTH, Sask. Jan. 1; 28 miles in 2 hours by vehicle in the a.m., 3½ hours by vehicle and on foot in the p.m.; temp. 20° to 35°; wind W. at 10 mph.; clear. 12 species, 224 individuals. Sharp-tailed Grouse, 12; Gray Patridge, 28; Rock Dove, 3; Great Horned Owl, 2; Horned Lark, 17; Blue Jay, 1; Black-billed Magpie, 15; Black-capped Chickadee, 3; House Sparrow, 80; Pine Grosbeak, 2; Common Redpoll, 49; Snow Bunting, 12. (Add: Starling, 2. Dec. 31).—**P. Lawrence Beckie.**

BROADVIEW, Sask. Dec. 24; 64 miles by car in 4 hours; temp. 30°; calm, clear, slight haze. 6 species, 148 individuals. Sharp-tailed Grouse, 6; Great Horned Owl, 1; Black-billed Magpie, 5; Black-capped Chickadee, 1; House Sparrow, 35; Common Redpoll, 100. (Add: Ring-necked Pheasant, 4, Jan. 1; Gray Partridge, 5, Dec. 30; Rock Dove, 3, Dec. 25; Evening Grosbeak, 12, Dec. 29; Pine Grosbeak, 5, Dec. 26; Snow Bunting, 200, Dec. 25).—**Adrey and Charles Thacker.**

BUFFALO POUND LAKE, Sask. Dec. 30; 10 miles by car and 14 miles on foot in 6 hours; temp. 15°; wind N.W. 15 mph.; light fog, clearing later; 8 inches of snow. 5 species, 41 individuals. Gray Partridge, 19; Great Horned Owl, 1; Black-billed Magpie, 1; Black-capped Chickadee, 1; Pine Grosbeak, 19.—**Michael Rhodes, George Rhodes, John Horton, Carl Ellis (compiler).**

CARON, Sask. Dec. 31; 10 miles by car in 1½ hours; temp. 20°; partly clouded; wind 15 mph. increasing to 25 mph. 6 species, 105 individuals. Sharp-tailed Grouse, 14; Gray Partridge, 7; Black-billed Magpie, 9; House Sparrow, 30; Common Redpoll, 25; Snow Bunting, 20.—**Mr. and Mrs. Cy Knight.**

CRAVEN, Sask. Dec. 29; 50 party miles by car, and 82 party miles on foot in 8½ hours; temp. —10° to —2°; wind S.E. 36 mph. to 12 mph.; snow cover light in the open, 18 inches deep in the brush. 22 species, 1517 individuals. Golden Eagle, 1; Bald Eagle, 1; Prairie Falcon, 1; Ruffed Grouse, 2; Sharp-tailed Grouse, 1; Ring-necked Pheasant, 2; Gray Partridge, 8; Rock Dove, 12; Great Horned Owl, 5; Short-eared Owl, 1; Hairy Woodpecker, 3; Downy Woodpecker, 5; Black-billed Magpie, 74; Black-capped Chickadee, 32; Bohemian Waxwing, 40; Starling, 1; House Sparrow, 1,000; Evening Grosbeak, 4; Pine Grosbeak, 33; Common Redpoll, 254; Song Sparrow, 1; Snow Bunting, 36.—**G. Anweiler, F. Brazier, W. Fleming, E. Fox (compiler), R. Fox, R. Lein, B. Nelson, R. W. Nero, R. Sanderson, A. Wade, D. Wade.**

DILKE, Sask. Dec. 24; 50 miles by car and on foot in 2½ hours over rolling prairie farmland with frequent blufs, farm shelterbelt and Arm River Valley; temp. 34°; wind S.W. at 15-25 mph.; snow 10 inches, drifted. 13 species, 628 individuals. Prairie Falcon, 1; Sharp-tailed Grouse, 9; Ring-necked Pheasant, 1; Gray Partridge, 30; Rock Dove, 1; Horned Lark, 12; Black-billed Magpie, 12; Black-capped Chickadee, 3; Starling, 7; House Sparrow, 150; Pine Grosbeak, 3; Common Redpoll, 200; Snow Bunting, 200.—**J. B. Belcher, Margaret Belcher.**

DUBUC, Sask. Dec. 27; 5 miles on foot. 10 species, 125 individuals. Gray Partridge, 15; Hairy Woodpecker, 1; Downy Woodpecker, 1; Black-billed Magpie, 3; Black-capped Chickadee, 6; Bohemian Waxwing, 15; House Sparrow, 75; Pine Grosbeak, 4; Slate-colored Junco, 1; Snow Bunting, 4. (Add: Ruffed Grouse, 1; Dec. 28; Sharp-tailed Grouse, 6, Dec. 21; Starling, 13, Dec. 21).—**George Chopping.**

ESTEVAN, Sask. Dec. 31; 4 miles on foot and 40 miles by car in 5¾ hours; temp. 15°; wind S.W. 10-15 mph.; light snow falling; 8 inches of snow on ground. 12 species, 465 individuals. Mallard, 15; Pintail, 1; Lesser Scaup, 1; Downy Woodpecker, 1; Black-billed Magpie, 10; Black-capped Chickadee, 16; White-breasted Nuthatch, 1; Bohemian Waxwing, 4; Starling, 1; House Sparrow, 385; Pine Grosbeak, 29; Common Redpoll, 1. (Add: Gray Partridge, 4, Dec. 24; Horned Lark, 2, Jan. 1; Snow Bunting, 5, Jan. 1).—**Darrel Carlson, Ross Lein (compiler).**

FORT QU'APPELLE, Sask. Dec. 23. 9 species, 242 individuals. Ruffed Grouse, 1; Rock Dove, 1; Downy Woodpecker, 2; Black-billed Magpie, 6; Black-capped Chickadee, 11; Bohemian Waxwing, 50; House Sparrow, 150; Pine Grosbeak, 9; Snow Bunting, 12. (Add: Great Horned Owl, 1, Dec. 30; Hairy Woodpecker, 1; Horned Lark, 2, Dec. 31; Blue Jay, 1; Northern Shrike, 1; Evening Grosbeak, 1; Common Redpoll, 15; Slate-colored Junco, 2).—**Alden Barnett, Dr. G. D. Barnett, Nancy Bushell, E. M. Callin (compiler), Richard Carter, Errol Cochrane, Dr. H. D. Jenner, Richard Nevard, Horace Reed, Jos. Rumancik.**

GRENFELL, Sask. Dec. 25; 10 miles by truck and on foot about the farm; temp. 7° to —5°; wind N.W. 20-25 mph.; cloudy; 6 inches of snow and bare fields; parkland. 6 species, 147 individuals. Black-billed Magpie, 5; Black-capped Chickadee, 1; Bohemian Waxwing, 30; House Sparrow, 75; Pine Grosbeak, 1; Snow Bunting, 35. (Add: Sharp-tailed Grouse, 15, Dec. 23; Gray Partridge, 9, Dec. 31; Hairy Woodpecker, 1, Dec. 31; Common Redpoll, 32, Dec. 31).—**Mr. and Mrs. John Hubbard.**

HAWARDEN, Sask. Dec. 28; 20 miles by car and on foot around farm in 5 hours; temp. —2°; 12 inches of snow; open prairies, farm yard and groves of trees. 4 species, 126 individuals. Gray Partidge, 21; Black-billed Magpie, 2; House Sparrow, 100; Snow Bunting, 3. (Add: Sharp-tailed Grouse, 1, Dec. 30; Rock Dove, 10, Dec. 31; Snowy Owl, 2, Dec. 31; Common Redpoll, 1, Dec. 30 and Jan. 1). —**Harold Kvinge.**

HIGH HILL-KLOGEI LAKE, Sask. Dec. 31; 14 miles on foot through heavy bush and poplar bluffs in 6 hours; temp. -5°; clear, clouding in late afternoon. 10 species, 26 individuals. Golden Eagle, 1; Sharp-tailed Grouse, 1; Pileated Woodpecker, 1; Hairy Woodpecker, 2; Black-backed Three-toed Woodpecker, 1; Gray Jay, 3; Blue Jay, 1; Black-billed Magpie, 6; Raven, 7; Black-capped Chickadee, 3.—**Anton Waycheshen.**

KELVINGTON, Sask. Jan. 1; within Kelvington town limits in 2 hours; temp. 26°; no wind; foggy. 5 species, 164 individuals. Black-capped Chickadee, 5; White-breasted Nuthatch, 1; Bohemian Waxwing, 3; House Sparrow, 150; Evening Grosbeak, 5. (Add: Ruffed Grouse, 3, Dec. 23; Blue Jay, 2, Dec. 23; Starling, 1, Dec. 21).—**Steve and Naomi Waycheshen.**

LADY LAKE, Sask. Dec 28; 5 hours on foot; temp. -10° to -15°; wind light; clear. 9 species, 112 individuals. Ruffed Grouse, 1; Gray Partridge, 1; Rock Dove, 10; Downy Woodpecker, 1; Gray Jay, 3; Black-billed Magpie, 2; Black-capped Chickadee, 18; White-breasted Nuthatch, 1; House Sparrow, 75. (Add: Hairy Woodpecker, 1, Dec. 30).—**Donald J. Buckle.**

LEADER, Sask. Dec. 27; 3 hours on foot and 1 hour and 24 miles by car; temp. 0°; no wind; foggy; 10 inches of snow. 5 species, 173 individuals. Ring-necked Pheasant, 9; Gray Partridge, 34, Rock Dove, 3; Black-billed Magpie, 13; House Sparrow, 114. (Add: Sharp-tailed Grouse, 10, Dec. 30).—**Daisy D. Myers.**

MASEFIELD, Sask. Dec. 25; 6½ miles by foot along the Frenchman River and 42 miles by car; temp. 28°; sunny, clouding over; 5 inches of snow. 10 species, 619 individuals. Golden Eagle, 1; Ring-necked Pheasant, 8; Gray Partridge, 34; Hawk Owl, 1 (no details, Ed.); Black-billed Magpie, 15; Black-capped Chickadee, 8; House Sparrow, 400; (Pine?) Grosbeak, 2; Common Redpoll, 100; Snow Bunting, 50. (Add: Horned Lark, 1, Dec. 24).—**J. David Chandler.**

MELVILLE, Sask. Dec 24; 20 miles by car and 5 miles on foot in 4 hours; light south wind; cloudy; 8 inches of snow. 11 species, 284 individuals. Ruffed Grouse, 1; Hairy Woodpecker, 1; Horned Lark, 6; Blue Jay, 5; Black-billed Magpie, 9; Black-capped Chickadee, 9; House Sparrow, 150, Evening Grosbeak, 3; Pine Grosbeak, 4; Common Redpoll, 95. (Add: Bohemian Waxwing, 3, Dec. 21; Common Grackle, 1, Dec. 19).—**Gary Anweiler.**

MOOSE JAW, Sask. Dec. 26; 34 party miles by car and 14 by foot in 29 party hours; temp. -9° to -7°; wind N.W. at 10 mph. gusting to 20; 5 inches of snow. 16 species, 718 individuals. Prairie Falcon, 1; Ring-necked Pheasant, 16; Gray Partridge, 32; Rock Dove, 100; Snowy Owl, 1; Downy Woodpecker, 1; Black-billed Magpie, 61; Common Crow, 4; Black-capped Chickadee, 2; Robin 1; Bohemian Waxwing, 105; House Sparrow, 350; Evening Grosbeak, 1; Pine Grosbeak, 20; Common Redpoll, 3; Snow Bunting, 20. (Add: Great Horned Owl, 1, Dec. 28).—**Frank Hill, Carl Ellis, W. W. Riome (compiler), Robert Tabaka, Mrs. F. V. Humphreys, Mrs. A. Pugh, Mrs. R. J. Dunn, Mrs. D. Rhodes, George Rhodes, Michael Rhodes, Jack Zess, John Horton, Mary Jane Ellis (members of Moose Jaw Natural History Society).**

REGINA, Sask. Dec. 24; 137 car miles and 48 man miles; temp. 11° to 35°; wind S.E. 16 mph.; bright sunshine 2.4 hours. 37 species, 5475 individuals. Horned Grebe, 1; Pied-billed Grebe, 1; Mute Swan, 5; Whistling Swan, 2; Canada Goose, 100; Mallard, 300; Gadwall, 2; Lesser Scaup, 12; Common Goldeneye, 9; Ruddy Duck, 6; Common Merganser, 1; Sharp-tailed Grouse, 7; Ring-necked Pheasant, 42; Gray Partridge, 71; American Coot, 3; Rock Dove, 119; Great Horned Owl, 5; Snowy Owl, 5; Yellow-shafted Flicker, 1; Downy Woodpecker, 4; Horned Lark, 1; Black-billed Magpie, 31; Black-capped Chickadee, 36; Red-breasted Nuthatch, 3; Robin, 1; Townsend's Solitaire, 1; Bohemian Waxwing, 757; Northern Shrike, 1; Starling, 5; House Sparrow, 3,815; Common Grackle, 2; Pine Grosbeak, 114; Common Redpoll, 3; Slate-colored Junco, 3; Harris' Sparrow, 1; Song Sparrow, 1; Snow Bunting, 10. (Add: White-breasted Nuthatch, 1, Dec. 30 and Jan. 1; Evening Grosbeak, 1).—**Mr. and Mrs. Doug Wade, Alan Wade, Vic Wilshire, Elmer Fox, Reg Fox, Billy Fleming, Ricky Sanderson, Dave Adams, Doug Gilroy, Jessie Bailey, Ruth and Herb Tempel, Elsie Cheseman, George Ledingham, Maureen Rever, Ruth Bennett, Ron Austin, Frank Brazier (compiler), Bob Nero, Robert McCall, Howard Erickson, Walter Knutson.**

SASKATOON, Sask. Dec. 26; 22 party miles on foot in 17 party hours and 191½ party miles by car in 21 party hours; temp. -9° to -13°; wind W.N.W. 13 to 23 mph.; partly cloudy; 5 inches of snow. 19 species, 3,619 individuals. Common Goldeneye, 3; Pigeon Hawk, 2; Sharp-tailed Grouse, 41; Ring-necked Pheasant, 3; Gray Partridge, 42; Rock Dove, 164; Snowy Owl, 2; Downy Woodpecker, 1; Blue Jay, 1; Black-billed Magpie, 85; Black-capped Chickadee, 25; Robin, 1; Bohemian Waxwing, 663; Northern Shrike, 1; House Sparrow, 1791; Evening Grosbeak, 12; Pine Grosbeak, 54; Common Redpoll, 556; Snow Bunting, 172. (Add: Mallard, 5).—**Jay Beaman, Harold Belcher, Al Binnie, John Black, Pern Cordery, Murray Cox, Dr. and Mrs. Ray Denson, Mr. and Mrs. Hans Dommasch, Bob Folker, George Gerrity, Mr. and Mrs. Bernard Gollop, Michael Gollop, Vic Harper, Mr. and Mrs.**

Jim Hogg, Vern Irvin, Stanley Houston, Dr. and Mrs. Stuart Houston, Dr. C. J. L'Ami, Jean Mackenzie, Janet McDougall, Sigrid Martynes, Bob Mills, Dr. and Mrs. Jim Pepper, Frank Roy (compiler), Margaret Sawatzky, John Shadick, Dorothy Slater, John Van Mossel, Peter Walmsley, Ted Wedge, Terry Wedge (members and friends of the Saskatoon Natural History Society).

SHAUNAVON, Sask. Jan 1; 3½ miles on foot along White Mud River, 60 miles by car; temp. 40°; sunny; 3 inches of snow. 10 species, 359 individuals. Golden Eagle, 1; Ruffed Grouse, 10; Sage Grouse, 11; Ring-necked Pheasant, 1; Gray Partridge, 9; Snowy Owl, 1; Long-eared Owl, 1; Horned Lark, 14; Black-billed Magpie, 13; House Sparrow, 300.—**James Stephenson, Doug E. Young (compiler).**

SKULL CREEK, Sask. Jan. 6; 2½ hours; temp. 34° to 28°; wind light; clear. 17 species, 432 individuals. Rough-legged Hawk, 1; Prairie Falcon, 1; Sharp-tailed Grouse, 21; Ring-necked Pheasant, 18; Gray Partridge, 48; Long-eared Owl, 6; Hairy Woodpecker, 2; Downy Woodpecker, 1; Horned Lark, 12; Blue Jay, 1; Black-billed Magpie, 65; Black-capped Chickadee, 41; Northern Shrike, 1; House Sparrow, 192; Pine Grosbeak, 1; Common Redpoll, 20; Tree Sparrow, 1. (Add: Golden Eagle, 2, Dec. 30 and Jan. 1; Short-eared Owl, 1, Jan. 1; Gray Jay, 1, Jan. 4; Snow Bunting, 550, Jan. 4).—**Mr. and Mrs. Borman, George, Peter and Donna Swain, Joan Stevens, Stanley Birchall, Harry Williams, S. A. Mann (compiler), Mrs. S. A. Mann, Robert Mann.**

SPIRIT LAKE, Sask. Dec 31; 4 hours and 5 miles on foot; temp. 14°; wind light; intermittently cloudy. 13 species, 165 individuals. Ruffed Grouse, 3; Hairy Woodpecker, 6; Downy Woodpecker, 7; Blue Jay, 1; Black-billed Magpie, 4; Black-capped Chickadee, 65; White-breasted Nuthatch, 2; Bohemian Waxwing, 4; House Sparrow, 35; Evening Grosbeak, 5; Pine Grosbeak, 2; Common Redpoll, 19; Snow Bunting, 12; (Add: Sharp-tailed Grouse, 17, Jan. 1).—**Joyce Gunn, Bill Anaka.**

STAR CITY, Sask. Dec. 23; 3 miles on foot in 4 hours; temp. -5°; wind light from S.S.E.; clear; 18 inches of snow. 4 species, 48 individuals. Black-billed Magpie, 1; Black-capped Chickadee, 1; House Sparrow, 40; Evening Grosbeak, 6. (Add: Sharp-tailed Grouse, 14, Dec. 24; Downy Woodpecker, 2, Dec. 30; Bohemian Waxwing, 1, Dec. 30).—**David and Wesley Grout.**

WOODROW, Sask. Dec. 27; 30 miles by truck and 2 miles on foot in 4 hours; temp. -6° to 2°; wind calm to N.W. at 15 mph.; treeless prairie with 22 farm groves—roads bare, about 1 foot of snow in groves. 7 species, 1413 individuals. Ring-necked Pheasant, 26; Gray Partridge, 64; Rock Dove, 8; Horned Lark, 2; Black-billed Magpie, 5; House Sparrow, 1300; Snow Bunting, 8.—**Fred Parchman.**

OAK LAKE, Man. Dec. 30; 6 miles on foot in 4 hours, and 46 miles by car in 4½ hours; temp. -5° to 19°; wind 10 to 17 mph. shifting from south to northwest; snow 4 inches deep. 16 species, 1099 individuals. Ruffed Grouse, 1; Sharp-tailed Grouse, 21; Short-eared Owl, 1; Downy Woodpecker, 5; Horned Lark, 7; Blue Jay, 2; Black-billed Magpie, 19; Black-capped Chickadee, 36; White-breasted Nuthatch, 7; Robin, 2; House Sparrow, 290; Evening Grosbeak, 2; Pine Grosbeak, 9; Hoary Redpoll, 12; Common Redpoll, 443; Snow Bunting, 242. (Add: Great Horned Owl, 1, Dec. 23; Snowy Owl, 1, Dec. 28).—**David R. M. Hatch.**

CO-OPERATIVE SPRING MIGRATION STUDY

Once again a continent-wide survey is being made under the auspices of the U.S. Fish and Wildlife Service of spring migration for a selected species (for list of species see **Blue Jay**, March, 1961, or write to the address below). Readers of the **Blue Jay** are urged to keep spring migration dates and submit their records by June 15, 1962, to Mrs. Dorothy Wade, 1351 Jubilee Ave., Regina.

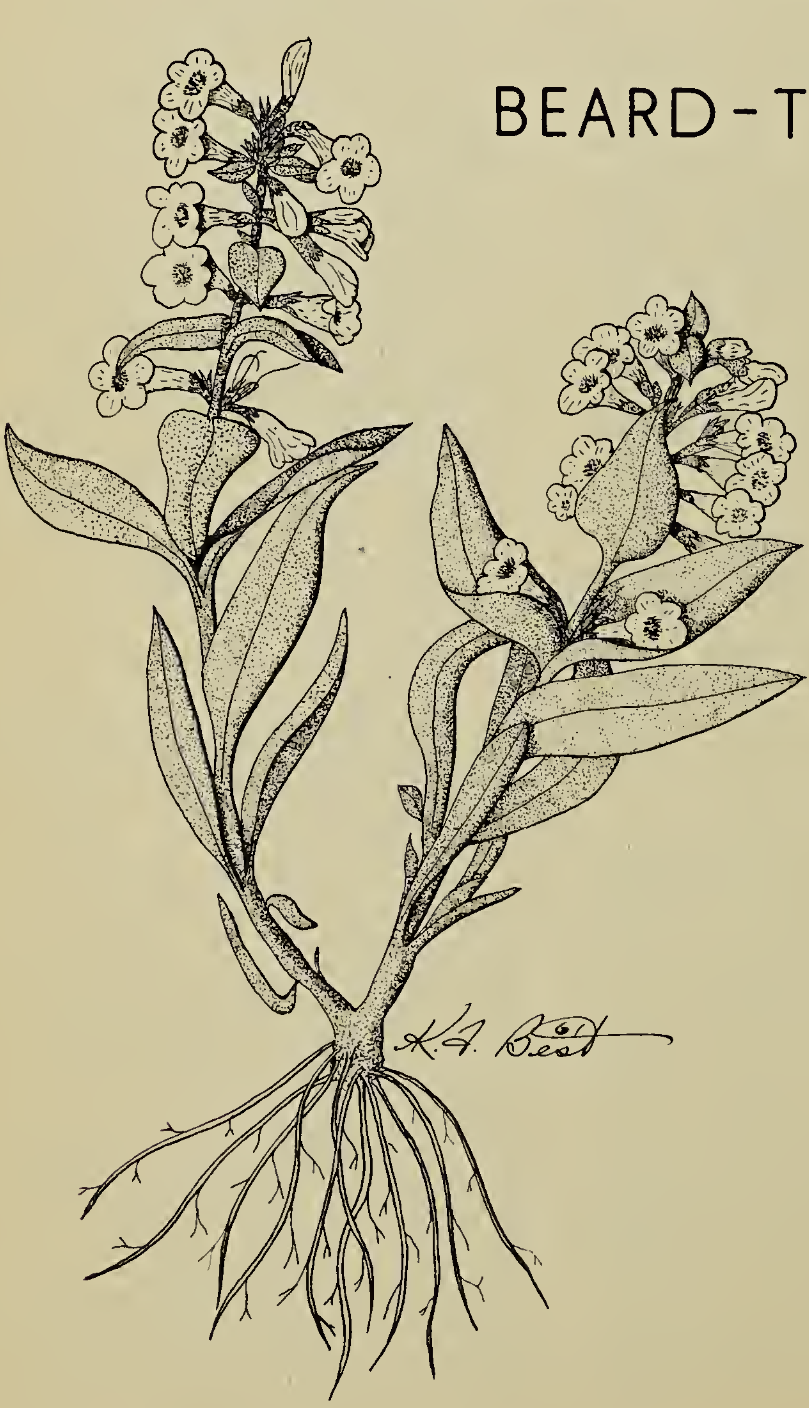
Flora of Eroded Hillsides

by **Keith F. Best,** Swift Current

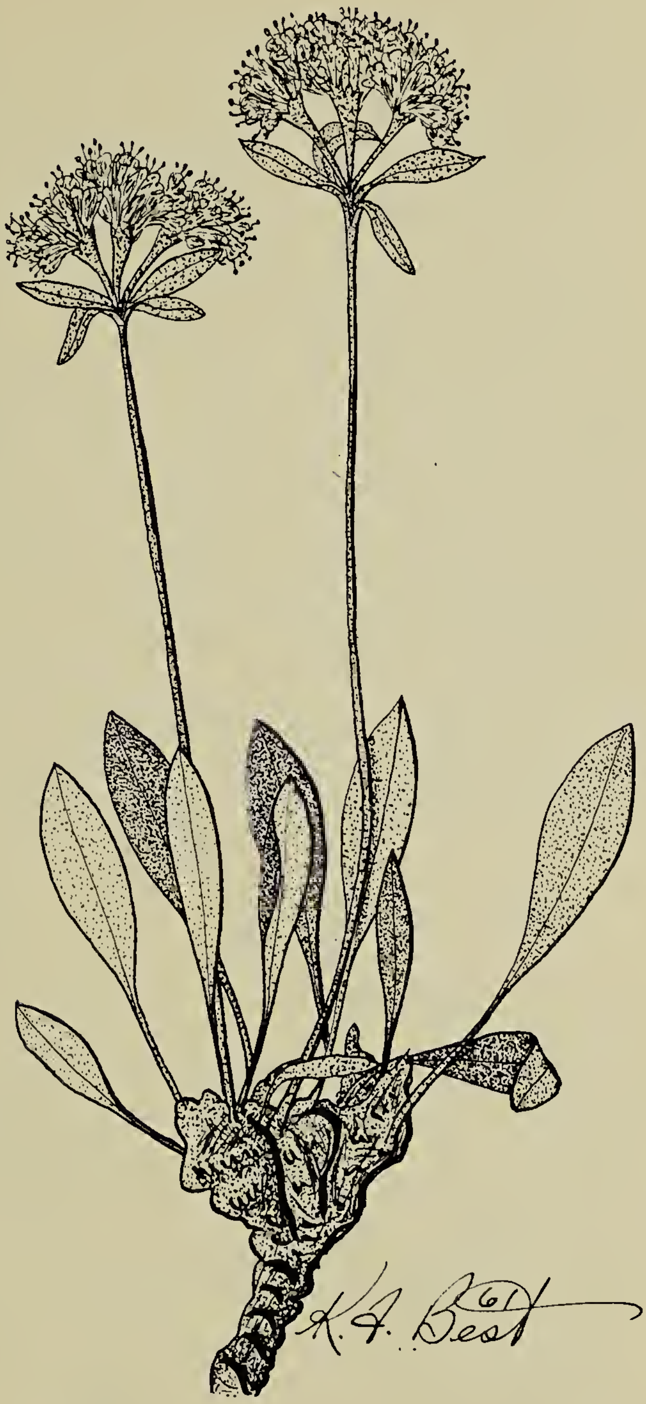
Each year during the month of May many of our dry hillsides and eroded areas burst forth with a deep blue floral display. A hairless perennial of the Figwort family, the Smooth Blue Beard-tongue (*Penstemon nitidus* has a stout stem which often branches from the crown and grows from 8 to 12 inches in height. The leaves are opposite, the lower ones lanceolate to oblanceolate 1 to 2 inches long, while the upper leaves are more ovate in shape and smaller in size. The dense, leafy racemes of flowers are generally a deep blue although variations ranging from purple through red to white do occur. The flowers have a funnel shape, widening towards the throat. There are five stamens (one of which is sterile), giving rise to the generic name. The fruit is an ovoid, many-seeded capsule. Although generally weak seeders, the Penstemons have strong root systems and reproduce rather vigorously by means of rootstocks. Many of the Penstemons are very attractive and are grown as ornamentals.

SMOOTH BLUE

BEARD-TONGUE



YELLOW UMBRELLA PLANT



Another species commonly found on these eroded areas that have lost the best of their surface soil is the Yellow Umbrella Plant (*Eriogonum flavum*), a low growing perennial of the Buckwheat family. This species grows from a coarse, tufted woody root. The leaves, from 1¼ to 2 inches long, all come from the base, and are usually linear-oblong or spatulate in shape. The leaves are green, the under surface being densely white woolly while the upper portions are only slightly hairy.

The flowers are in small umbrella-like clusters at the head of stems and are pale yellow in color. The individual flowers are small and although they have no petals, the sepals are coloured, more or less united, and persist around the single, usually three-angled, one-seeded achene. There is a whorl of bracts below the flower clusters. Flowering generally occurs near the middle of June.

The Bur Oak

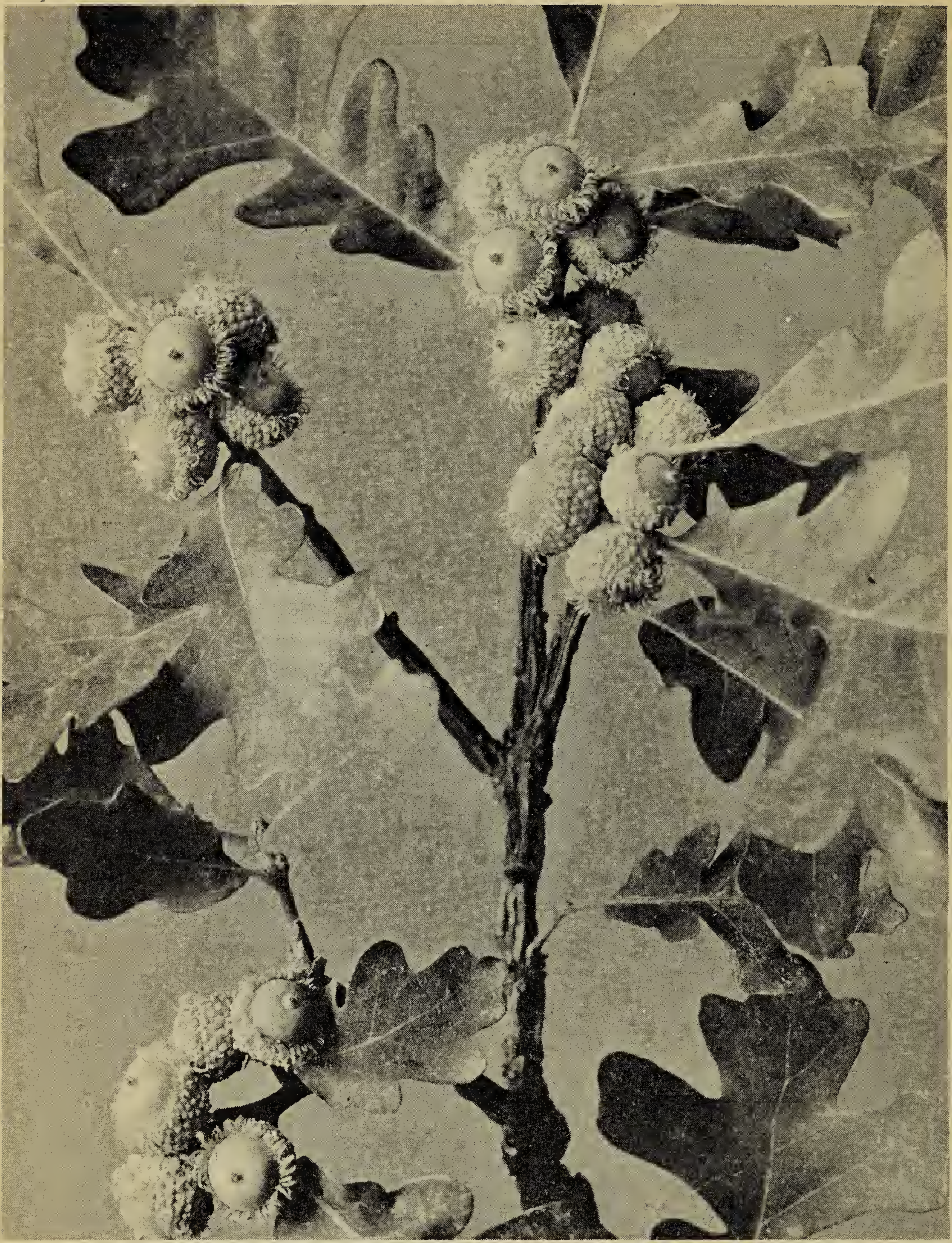


Photo by W. C. McCalla

Quercus macrocarpa Michx.

The Bur Oak or Mossycup Oak is a large tree in eastern Canada but it is reduced to a shrub in the western limit of its range. The Bur Oak extends westward into eastern Saskatchewan along the Pipestone and Qu'Appelle Valleys. It is not recorded for Alberta. The picture above is taken at about 3/5 natural size. The trees shown in the other picture were 14 - 16 inches in diameter at breast height.

Photo by W. C. McCalla

Bur Oak near East Kildonan, Manitoba, July 30, 1923

First Record of Common Mullein for Saskatchewan

by **John H. Hudson,** Saskatoon

The common Mullein, *Verbascum thapsus* L., has now made an appearance in Saskatchewan. This plant, naturalized from Europe, is an abundant weed especially in rocky and gravelly places in both eastern and western coastal provinces of Canada. It has been approaching our province from both east and west.

H. J. Scoggan in **Flora of Manitoba,** 1957, reports that it occurs in a few places in or near Winnipeg. The first known collection in Manitoba was from Winnipeg in 1935. E. H. Moss in his **Flora of Alberta,** 1959, reports that it is occasional in southern Alberta.

In early October, 1961, Bill Richards, a member of the Saskatoon Natural History Society, brought me a dead flowering stem and a live first-year rosette of *Verbascum thapsus* L. This is the first Saskatchewan record of this plant so far as I know. Bill found this densely woolly plant with the tall flowering stem in an old coal dump at the yards of the Canadian National Railways where he works. A large railway yard is often a good place to find stray plants and there is no doubt that trains effectively help some plants in their migrations. It would be interesting to know if there are other locations where the Common Mullein is growing in Saskatchewan. If you find it in your area please send a specimen to the botanist, University of Saskatchewan, Regina Campus, Regina.

The Cecropia Moth in the Prairie Provinces*

by **L. O. T. Peterson** and **H. A. Worden,** Forest Nursery Station, Indian Head

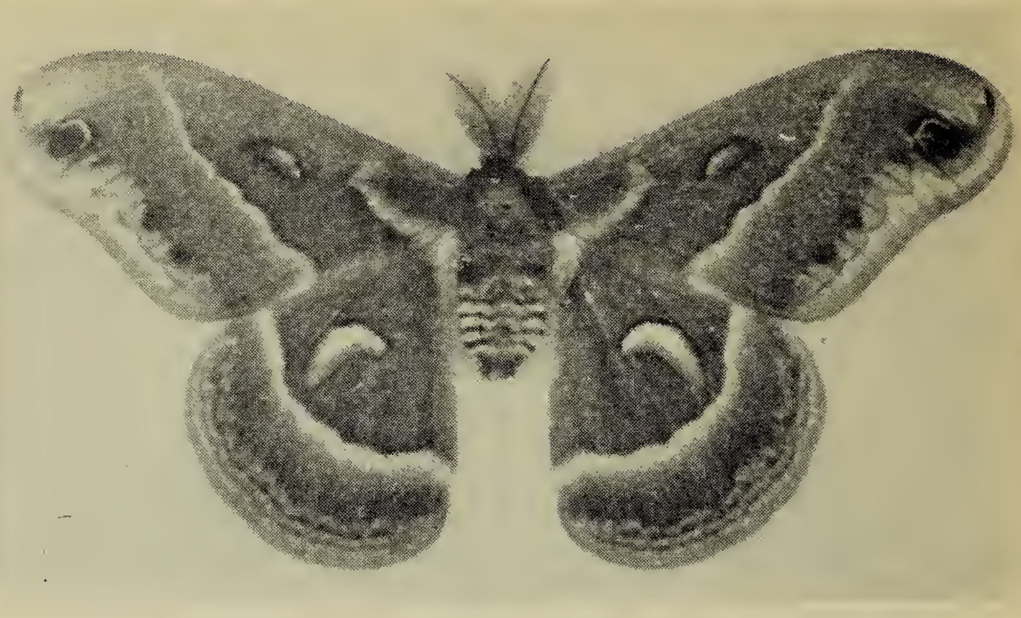


Figure 1. Adult male Cecropia Moth.

The Cecropia Moth is one of our largest Canadian Lepidoptera. The females may achieve a wing spread of more than six inches. The known range of this moth in North America includes the United States east of the foothills of the Rocky Mountains, and in Canada the Maritime Provinces and the southern portions of Quebec, Ontario and the Prairie Provinces (Sweadner, 1937). Its reported host plants number more than 30 species, the preferred ones being currant, box elder and willow (Gentry, 1877; Houser, 1918; Marsh, 1937, 1941; McDaniel, 1938; Saunders, 1871).

The Cecropia Moth was described by Linnaeus (1758) as *Phalaena cecropia.* Subsequent taxonomic changes have been reviewed by Sweadner (1937). Currently this species is referred to in entomological literature as *Hyalophora cecropia* (Linn.). It is capable of mating with other closely related species to produce fertile hybrids (Sweadner, 1937).

Occurrence in the Prairie Provinces

Infestations of the Cecropia Moth in the Prairie Provinces were first recorded in 1927. They occurred in farm shelterbelts in south-central Saskatchewan (Stewart, 1931). These infestations proved to be the beginning of an outbreak which spread during the next three decades over much of the prairie region and adjacent parkland areas of Saskatchewan, southwestern Manitoba, and southern and mid-eastern Alberta. The outbreak reached Manitoba by 1936, and the species was still present and abundant in many localities in the province in 1948. In Saskatchewan the northward extension carried the outbreak across the South Saskatchewan River by 1940, and reached almost to the North Saskatchewan River in western Saskatchewan by 1944. Local infestations first appeared in southwestern Alberta in 1934 and in mid-eastern Alberta about 1940. These were the forerunners of the main outbreak which, by 1942, spread over much of the eastern portion of the province between the South Saskatchewan River and the Battle River, and resulted in sporadic, local infestation in more southern districts in the province. A general decline of the outbreak began in 1948. A few sporadic, light infestations persisted till 1952. Since 1952, the species has been reported in very small numbers only at Maple Creek, Saskatchewan, and in eastern Alberta.

Infestations on box elder were much more frequent and defoliation was more severe than for any other host (King, 1931; McGugan, 1958). In south-central Saskatchewan when the outbreak was at a peak, it was estimated that 75 per cent of the farm shelterbelts were infested, and up to 80 per cent of the foliage on older trees, was destroyed (Stewart, 1931). In general, defoliation of shelterbelts was more extensive and severe in Saskatchewan than in Manitoba or Alberta. New hosts recorded during the outbreak were caragana, *Caragana arborescens* Lam., green ash, *Fraxinus pennsylvanica* Marsh, var.

---

*Contribution No. 20 Forest Nursery Station, Research Branch, Canada Agriculture, Indian Head, Saskatchewan.

lanceolata (Borkh.) Sarg., saskatoon, *Amelanchier alnifolia* Nutt. and Russian almond, *Prunus nana* Stokes.

In order to appraise more fully the potential of the Cecropia Moth as a shelterbelt pest, observations pertinent to the Prairie Provinces were made on the life history and habits of the insect and on natural control agencies. For several seasons cocoons were obtained annually from infested plantings for rearing studies in the laboratory and field. Population trends in farm shelterbelts were also noted.

Appearance, Life History, Habits

Adult stage

The adult is shown in Figure 1. Sweadner (1937) has pointed out that the grizzled ground color and tapering extradiscal band on the forewing, and to some extent the red part of the extradiscal band, will separate this species from other closely related species.

Earliest emergence of moths from the collected cocoons was on May 27, and the latest on July 17. Yearly variations occurred, caused by climatic conditions before and during the period of eclosion. Emergence in sunny sites was 10 to 15 days earlier than in sites shaded by tree growth. Most of the daily emergence occurred during the late forenoon and early afternoon. Thirty-two to 58 per cent of the moths which emerged in captivity were females.

The maximum length of life for moths confined in field cages was 26 days for the males and 20 days for the females.

Confined moths frequently mated on the day after emergence from the cocoons and some re-mated at a later date. Duration of mating was from less than one day to more than four. Marsh (1941) reported an average mating time of 15 hours and found that the males rarely re-mated with other females.

The oviposition period of reared moths varied from 3 to 18 days; the average was 12 days. Under natural conditions, approximately 99 per cent of the eggs were deposited on the under surface of the leaves. The remainder occurred on the upper surface, the leaf petioles and the twigs. The eggs were usually placed in small clusters and were held together and to the host plant by a sticky, dark brown fluid secreted by the females. The number of eggs per cluster varied from one to 17, the average was four for 545 clusters collected from farm shelterbelts. In field cages the numbers varied from three to 30 eggs; the average was 12. In contrast, Saunders (1871) reported that the eggs were laid singly, and seldom more than one or two on each tree or bush. Mated females produced an average of 290 ova and laid an average of 213 eggs. Unmated females also laid eggs, but deposition was delayed and sporadic, and the eggs were sterile.

Egg Stage

The minimum, maximum and average length of the eggs were 2.0, 2.4 and 2.3 mm., respectively. Corresponding measurements of width were 1.5, 1.9 and 1.7 mm. The ends were bluntly-rounded and a marked depression occurred on one side. The color of the eggs varied from dull-yellow to brown.

Incubation of Cecropia eggs occurred in 30 days at a temperature range of 33° to 69°, 17 days at 55° to 78°, and 15 days at a range of 66° to 74° F. At 80° to 90° F, and a low relative humidity, incubation occurred in six days (Gentry, 1877).

The eggs were present in field samples as early as the first week in June and as late as the fourth week in July. Hatching commenced by late June.

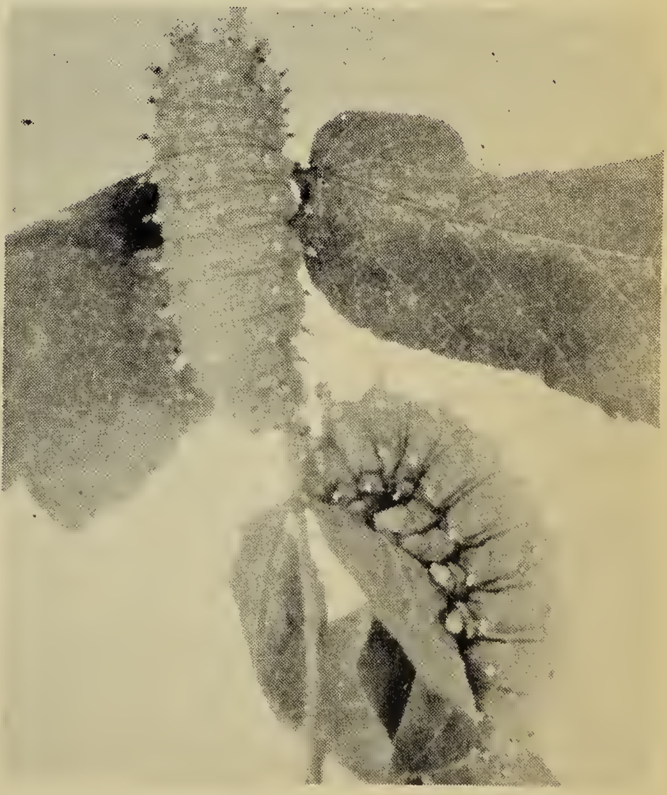


Figure 2. Larva of Cecropia Moth.

Larval Stage

Reared larvae passed through five stages of development and underwent four moults. Marsh (1941) reported six instars and five moults.

All instars of the Cecropia larva (Fig. 2) have eight rows of spined tubercles or warts. One row is located on each dorsolateral surface, and terminates in a large median tubercle on the eight abdominal segment. Two rows occur on each lateral surface; one is above the spiracles, the other subspiracular. One row occurs on each lateroventral surface immediately above the thoracic legs, and on the fifth instar, terminates on the second abdominal segment. The following descriptive key gives the general anatomical and colour characters of each larval instar. Greatest variation between instars occurs in the coloration of the dorsal tubercles, especially noticeable in the ultimate instar, and in the size of the black-pigmented areas of third and later instars.

KEY TO LARVAL INSTARS OF CECROPIA MOTH

Instar	**Head (size range in mm.)**	**Body**	**Tubercles**	**Markings**
First	Black 0.95 - 1.23	Black in early stage, greyish with yellowish areas around bases of tubercles in late stage. Spiracles silvery.	Black, with black spines, becoming brownish in late stage.	
Second	Black 1.47 - 1.76	Yellowish to light orange in early stage, greenish - yellow in late stage.	Black, with black spines.	Two black spots on each body segment between adjacent rows of tubercles.
Third	Yellow to yellowish - green. 2.25 - 2.77	Greenish - yellow; broad mid-dorsal line light yellow in early stage, bluish in late stage.	Dorsolateral row wart - like, blue on prothorax, red on mesothorax and metathorax, yellow on abdomen; lateral rows bluish; lateroventral row black. Spines black, present on al tubercles.	Two black spots on each body segment between adjacent rows of tubercles smaller and often indistinct on dorsum in late stage; black spots dorsad and laterad on yellow tubercles; black spots dorsad on blue tubercles above spiracles.
Fourth	Greenish - yellow. 3.56 - 3.81	Yellowish-green with broad mid - dorsal bluish line.	Dorsolateral row wart - like, blue on prothorax, pinkish - orange on mesothorax and metathorax, yellow on abdomen; lateral rows bluish; lateroventral row black. Spines black, present on all tubercles.	Black spots between adjacent rows of tubercles absent, or faintly present below spiracles; circle of black spots around necks of pinkish - orange tubercles on mesothorax and metathorax; black spots on tubercles above spiracles in early stage, sometimes absent in late stage.
Fifth	Yellowish - green. 5.11 - 5.74	Yellowish-green shading to bluish-green along dorsum.	Dorsolateral row wart - like, blue on prothorax, orange with black spots on mesothorax and metathorax, yellow on abdomen; lateral rows and lateroventral row blue, white-tipped. Spines black, absent on prothorax, present on remaining segments but fewer than on earlier instar.	Circle of distinct black spots around necks of yellow tubercles on first abdominal segment.

The average lengths of the stadia, for larvae reared under outside conditions, were: first, 6 days; second, 8 days; third, 7 days; fourth, 11 days; fifth, 34 days of which 22 days elapsed between the commencement of cocoon formation and occurrence of the last larval moult.

The larval period extends from late June to late September. The seasonal duration of each stadium as observed in 1942 and 1943 was as follows: first, July 4 to July 26; second, July 9 to August 5; third, July 16 to August 15; fourth, July 22 to August 26; fifth, July 31 to September 26.

Attempts to rear newly-hatched caterpillars on green ash were only partially successful. Young larvae transformed to American elm leaves failed to establish themselves and soon died. Larvae reared on box elder fed and developed normally. Gentry (1877) reported that first and second instars reared and thrived only on the common red currant, but that third and later instars transferred successfully to other species of *Ribes* and to species of *Prunus, Spiraea, Rosa, Wistaria, Philadelphus, Syringa, Symphoricarpus, Sambucus*. Newly-moulted larvae were observed to feed on their cast skins.

Relatively small amounts of leaf surface were devoured by the first three instars. Small holes were eaten in the leaves during the first stadium. In the second and third stadia such holes became increasingly larger. Noticeable damage did not occur till the fourth stadium when larger and more irregular portions were eaten out of the leaves. Feeding in the last larval stadium exceeded the total for the four preceding stadia. In all stadia, feeding declined sharply about two days before moulting and increased again on the second day following moulting.

Observations on dispersal activities of the larvae were made in 1960, in an eight-year-old box elder plantation. The plantation contained approximately 80 trees planted in rows 12 feet apart, with six-foot spacing in the rows. Since the trees had been cut back to a height of three feet in 1959, secondary growth in 1960 was vigorous and food was abundant. The trees were hand-infested with recently hatched Cecropia larvae. During the first four stadia and the early part of the fifth stadium, the larvae showed very little inclination to wander away from their feeding sites except to reach new, nearby food supplies. Toward the end of the fifth stadium a marked restlessness occurred which was broken by short periods of feeding prior to formation of the cocoons. One hundred and thirty-three of the larvae in the plantation reached this stage. One of them wandered to a caragana hedge 36 feet distant from the east side of the plantation where it formed its cocoon; 18 formed cocoons on a caragana-honeysuckle hedge 12 feet distant from the west side of the plantation. The remaining 114 formed cocoons throughout the plantation. One larva was seen to wander southward for a distance of 25 feet across cultivated land, then turn about and return to its original host tree where it formed its cocoon. Another larva left the tree on which it had developed and formed its cocoon on a tree two rows to the eastward.

All of the cocoons were attached to the stems or branches of the trees. Sixty-three per cent of them were placed less than one foot above the ground level; 26 per cent between one and three feet; and 11 per cent, more than four feet above ground level. Data from a shelterbelt infestation in western Saskatchewan indicated that 99 per cent of the cocoons were located less than three feet above ground level. Marsh (1941) reported cocoons evenly distributed from the ground to the tops of 35-foot trees.

Pupal Stage

The cocoon (Fig. 3), enclosing the pupa is approximately 80 mm. long and 25 mm. wide. It is composed of two layers, an outer one and an inner, more delicate one. The cocoon is spindle-shaped, with pointed ends. Its colour varies from tawny grey to dull brown.

The pupa is approximately 38 mm. long and 20 mm. wide. It is reddish brown. The wide antennal sheath of the male pupa distinguishes it from the female pupa.

In a sample of 22 larvae reared outside, cocoon formation began on August 17 and the first pupa appeared on September 1. All of the larvae had formed cocoons by August 31 and become pupae by September 22.

The pupal period, ending in June, is approximately nine months. In rare cases it has extended to the second spring, giving a pupal period of 21 months (Marsh, 1941). Extension of the pupal period to the second spring has also been reported for another local species, *H. gloveri nokomis* Brodie (Cumming - Hopkins, 1960).

Natural Mortality

Birds, spiders, and parasitic Hymenoptera and Diptera have been regarded as the chief factors in reducing population abundance of the Cecropia Moth (Gentry, 1877; Marsh, 1937).

In the Prairie Provinces local infestations in shelterbelt plantings usually reached a peak and declined to relative unimportance in a period of three or four years. Disease, parasites, and predators were agencies which contributed to the decline of these infestations.

Disease

Disease was the most important natural control factor in checking severe infestations. One of the earliest authentic records was Manson's (1933) which stated that local Cecropia populations in southwestern Saskatchewan were practically wiped out in the fall of 1932, just prior to pupation, by a disease which resembled "flacherie". A similar situation was reported in 1943 in south-central Saskatchewan. Cecropia larvae had been very abundant in 1941, and defoliation of box elder in farm shelterbelt was severe. In 1942 a marked decline occurred. In farm plantings, where defoliation was 90 per cent in 1941, only five per cent damage occurred in 1942. Numerous dead caterpillars were on the ground and 75 per cent of those present on the trees appeared emaciated and were not feeding. A fluid oozed from the dead bodies adhering to the twigs.

Parasites

Parasitism played a minor role in reducing population abundance. Small numbers of Cecropia eggs were parasitized by a Scelionid, *Telenomus* sp., near *coloradensis* Cwfd. Only four of the 47 field samples examined in 1948 contained this parasite.

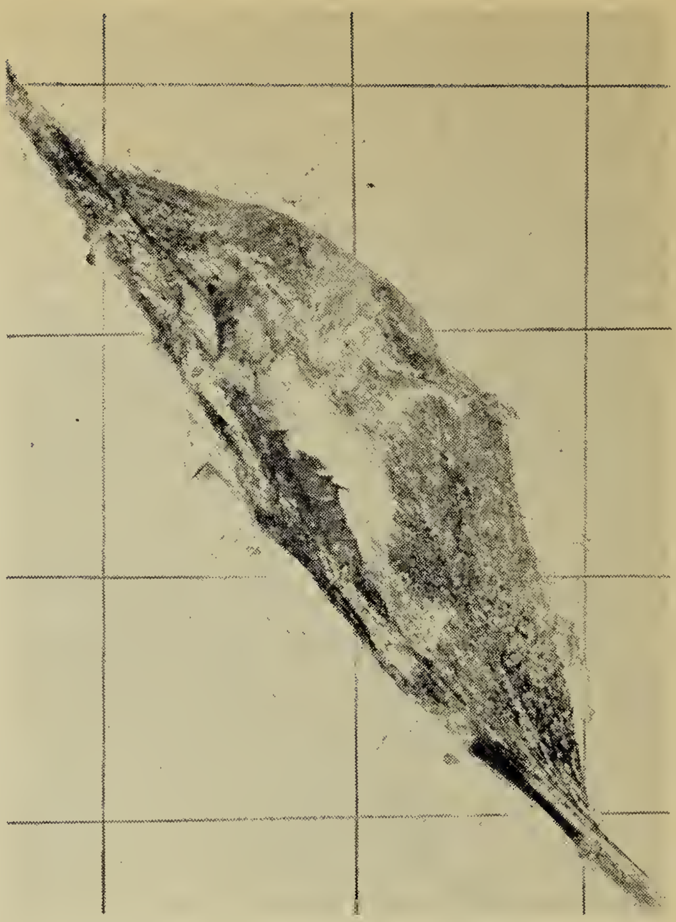


Figure 3. Cocoon of Cecropia Moth.

The dipterous parasite, *Achaetoneura samiae* Webb, was reared from Cecropia larvae and pupae but the percentage parasitisim was small.

Predators

Acts of predation were not witnessed during the investigation but circumstantial evidence indicated that predation did occur. In 1948, Starlings (*Sturnus vulgaris*) were reported eating larvae at Lancer, Saskatchewan. In 1959, first instar larvae were transferred to box elder trees in a field planting for rearing. They became established on the foliage but within a few days most of the larvae had vanished from the trees. The remaining ones became second instar larvae, and then they also disappeared. A further lot of second instar larvae was then transferred to the same plantation. Each larva was placed on a separate branch covered with a cheesecloth cage. Almost all larvae in this lot reached the ultimate larval stage. A further experiment was conducted in 1960 in the same box elder plantation. More than 800 first instar larvae were transferred to 73 trees on July 5. Only 54 per cent of the larvae were still present on the trees by August 4.

The percentage of survival was further reduced to 16 by August 30. Although disease accounted for most of the larval loss, it appeared probable that some of the larvae were destroyed by birds and predaceous insects.

Predation of the pupae also takes place. Frequently cocoons are torn open or totally removed. Many cocoons covered by snow which lodges in shelterbelts during the winter months, are chewed, and the pupae destroyed. These depredations appear to be the work of small rodents. In 1960, 118 cocoons containing pupae were marked in a box elder plantation and in two adjacent hedges. Few cocoons were lost before September 14, but between September 14 and September 28, all but two had been removed or destroyed. The cocoons, with few exceptions, had been torn from the stems and branches and carried away. Those destroyed on the trees had been torn open and the pupae removed. Pictures taken with a field camera triggered to 'planted' cocoons showed Black-billed Magpies (*Pica pica*) tearing at the cocoons to remove them from the trees. Similar depredations in previous years had also been attributed to magpies.

Other Factors

Infertility of the eggs and failure of larvae to hatch caused small population losses. In samples comprising more than 2000 eggs these losses were less than three per cent.

REFERENCES

Cumming-Hopkins, M. 1960. Notes on **Hyalophora** spp. from the Forest Insect Survey, Calgary. **Bi-monthly Progress Report.** Forest Biology Division, Canada Agriculture 16 (3).

Gentry, T. G. 1877. Metamorphic changes of **Platysamia cecropia. Canadian Ent.** 9:41-50.

Houser, J. S. 1918. Destructive insects affecting Ohio shade and forest trees. **Ohio, Agr. Expt. Sta., Wooster, Ohio.** Bul. 332:266-267.

King, K. M. 1931. **Canada Department of Agriculture, Canadian Insect Pest Rev.** 9 (3):64.

Linnaeus, Carl. 1758. Systema Naturae, Tome 1.

McDaniel, E. I. 1938. Important leaf feeding and gall making insects infesting Michigan's deciduous trees and shrubs. **Agr. Expt. Sta. Michigan State College, East Lansing.** Special Bul. 243:51-52.

McGugan, B. M. (Compiler). 1958. Forest Lepidoptera of Canada recorded by the Forest Insect Survey. **Canada Department of Agriculture.** Pub. 1034. 1:40.

Manson, G. F. 1933. **Canada Department of Agriculture, Canadian Insect Pest Rev.** 11(3):59.

Marsh, F. L. 1937. Ecological observations upon the enemies of cecropia with particular reference to its hymenopterous parasites. **Ecology** 18:106-112.

Marsh, F. L. 1941. A few life-history details of **Samia cecropia** within the south-western limits of Chicago. **Ecology** 22:331-337.

Saunders, W. 1871. **Attacus cecropia. Canadian Ent.** 3:149-155.

Stewart, K. E. 1931. **Canada Department of Agriculture, Canadian Insect Pest Rev.** 9 (3):64.

Sweadner, W. R. 1937. Hybridization and phylogeny of the genus **Platysamia. Ann. Carnegie Museum.** 25:163-242.

(Continued from page 4)

S.N.H.S.) states that in March, 1904, a rufous specimen was taken at Regina for the Chicago Natural History Museum. In December, 1931, a specimen was taken at Tregarva (also rufous). Another was taken in March, 1934, by Mr. Fred Bard (this specimen being found in a store basement). Also Miss Belcher mentions a number of sight records: in December, 1932, a red-phased Screech Owl was seen by Mr. Bard; another was seen in November, 1935, by Knowles; and Mr. Bard identified an owl seen by Mrs. J. Couturier in the fall of 1940 as a red-phased Screech Owl. It is interesting that most of these birds had the rufous plumage.

(Continued from page 14)

Besides that nest ¼ mile north of us, we had another family of flickers, in a post planted for that purpose in our yard. Now that's a lot of flickers in one year for our locality —in comparson with the past. The young flickers in our yard survived quite an experience. When they had begun to feather, our children along with some visiting youngsters filled the nest full of stones. When I went out into the yard the next morning, the adult was noisily flying about. I wondered at her behaviour. Then about noon my young daughter Theresa gave me an inkling of what had happened and I was able to remove the stones. The stones were in the nest from 8:00 p.m. until 12 noon the following day, and yet three of the four young survived.

Wetlands for Waterfowl

Good Fences Make Good Neighbours

by **R. M. Ferrie**, Saskatchewan Fish and Game League, Saskatoon

Good fences make good neighbours. Few will challenge that statement. A fence is a barrier that will either be an enclosure or an exclosure depending on the need. It may be one of posts and wire constructed to protect the purity of a herd of registered cattle; it may be a fire-guard set to prevent the forward progress of a bush or range fire. A fence may be an inoculation of a serum to inhibit the growth of disease organisms, or it may even be organized and managed wetland areas where conditions may be so favorable that a migrant Mallard or Pintail duck will be induced to stay put rather than forage into fields where unharvested crops of grain lie in swath. Every fence, of course, must be a good fence to provide the service for which it was intended.

One example of inadequate "fencing" is the kind of provision made for waterfowl with relation to expanding agricultural interests. This situation goes back to the signing of the Migratory Birds Treaty and the Migratory Birds Convention Act by Canada and the United States. Under the act a permit to scare migratory birds causing or likely to cause damage to agricultural interests could be issued by any authorized game officer to a person suffering damage. If the marauding birds could not be scared away, a killing permit could be issued. No thought was given to providing suitable habitat for birds scared away from any given area. This is probably understandable as there were then thousands of marshes and sloughs scattered throughout the settled area of the prairie provinces. The deficiency and absence of natural habitat for waterfowl belonged to the future.

Appearing first in about 1920, the conflict between ducks, Sandhill Cranes and other migratory birds, and agriculture has grown each year in direct proportion to the withdrawal of wetlands from the prairie scene. Encroachment of urban expansion and the desire to bring more arable land under the plow has threatened the very existence of many forms of wildlife. Naturally they fight back, and in so doing, they have changed many of their primitive habits, especially those involving kinds of food eaten and time of feeding. Ducks, especially Mallards and Pintails, have developed a taste for cereal grains and are quite capable of feeding in the dark. This flanking attack is the reason for the breach between landowners and migratory waterfowl, more pronounced during periods of unfavorable harvesting weather. The damage caused can run into millions of dollars. The fence which seemed adequate in earlier days has not been rebuilt to keep abreast with changing conditions and the demands of civilization.

In a food-hungry world where more mouths appear daily, the philosophy has been to try to meet the challenge by providing increasing quantities of food. The place that western Canada and part of the United States hold as quality grain producers is well known. Land that could economically be brought into production was wrested from the wild, and wildlife habitat and range shrank accordingly. The major grain producing areas of North America are also the cradle of the continental waterfowl populations so that wetland habitat developed for agriculture meant that the birds and other wildlife had to make the best of their smaller holdings.

A changing world with more mechanization and automation brought an additional hunger, that for recreation to make the best use of leisure time. Robert W. Service called this "hunger, not of the belly kind, to be banished with bacon and beans." Mandatory holidays, earlier retirement age and shorter work weeks produced a much greater demand for areas and facilities for hunting, fishing, camping, etc. The value of resources that provide these forms of relaxation is now greater than ever before.

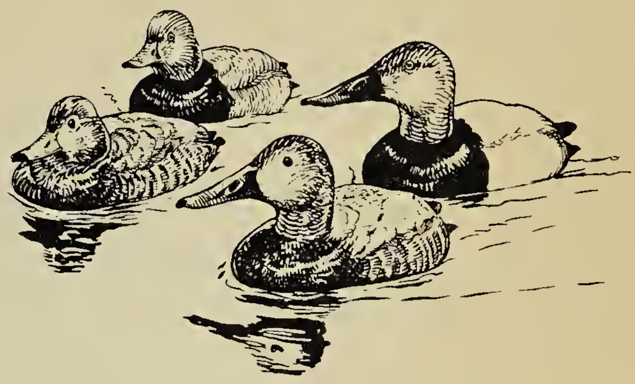
After years of land reclamation and wetland drainage in an effort to produce more food, the ever-rising conflict with wildlife would indicate that some soul-searching is required to provide the best resource use. Some drainage has been good business and has proven its worth over the years, but many wetlands re-claimed for agriculture have proved worthless and have had to be abandoned. The fences need remodelling to meet present day needs.

Basically, the waterfowl problem is one of habitat. Without wetlands for nesting, resting and wintering, waterfowl production drops drastically and there is heavy mortality among the birds which do survive. As a result conservationists are trying to preserve waterfowl by acquisition of suitable wetlands and the stopping of subsidies and incentives for drainage where the practice is harmful to wildlife.

The Department of Northern Affairs and National Resources recognizes that provision must be made for the maintenance of waterfowl habitat and that landowners must be compensated for their part in the program. In short, what is wanted is a secure home for ducks with an increased income for farmers. Most authorities in the wildlife field agree that major flights of continental waterfowl are doomed unless adequate habitat preservation measures are taken within the next few years.

A committee composed of personnel of the U.S. Departments of the Interior and of Agriculture has been set up to confer with the Canadian Departments of National Resources and Agriculture in working out an international arrangement for preserving waterfowl wetlands in both nations. Under consideration, for example, are ways and means whereby farmers receive some added income for assisting with the plan. Compensation payments could take several forms — payment for not cultivating around potholes and sloughs where waterfowl breed, payment for providing open areas for feeding places to hold waterfowl rather than having them forage into swathed fields. In some cases, buying land from the farmer or leasing it for long periods, might be the solution. Besides the direct benefit of added income to the farmer there would be the indirect benefit of lessening the conflict between those interested in waterfowl and the farmers whose crops are damaged at harvest time.

Don't Shoot These Ducks



The partners in the compact to preserve waterfowl resources include the interested departments of government of Canada and the United States and the corresponding state and provincial agencies. Then there are sportsmen's organizations, farmers and landowners and their co-operative associations, both individual and municipal. Waterfowl, too, will sit in as a full partner and will react according to the wisdom of the decisions made by the other partners. The program is on the planning board and it is most important that the effort be adequate to protect the interests of all parties concerned.

In view of the fact that the program will develop as it proves itself acceptable, there is a need for all those who are concerned to be conscious of the steps being taken and to have a chance to express themselves. To this end it is suggested that every farmer who has an interest in waterfowl discuss the proposal with other farmers, talk it over at municipal council meetings, confer with their federal and provincial government representatives, and the nearest organized sportsman's club. This should be done **now.** Time is the essence with the waterfowl resource.

It must not be too little and too late.

FARM AID PLANNED TO HELP WATERFOWL

Reprinted from **Leader-Post**, January 22, 1962, CP report, Windsor, Ont.

A suggestion that Prairie farmers be paid to put up with the "nuisances" of wild ducks is going to be tried out by the federal government, Resources Minister Dinsdale said today.

It would involve a "modest" payment to landowners who agreed not to drain wetlands used by nesting flocks and to farmers willing to set aside small tracts of grain for duck food.

Mr. Dinsdale told the annual meeting of the Ontario Federation of Anglers and Hunters that the proposal came from a committee of Canadian and American experts studying the preservation of migratory birds.

It would be tried on a small scale at first and expanded if it proves acceptable to farmers and helps increase the waterfowl population.

Mr. Dinsdale said the steady draining of western sloughs and potholes has had a serious effect on duck nesting. "As things stand now, potholes seem pretty much of a nuisance to the farmer," he said. "They produce no cash crop, they are an obstacle to his implements, they harbor birds which sometimes damage his crops and he has to pay taxes on them."

The minister did not spell out the details of the payments program.

On the subject of conservation, he said, the "Resources for Tomorrow" conference of conservation experts last October will prove to be as important to this nation as the conferences which made Confederation possible in 1867.

The meeting of 600 federal and provincial officials at Montreal studied the problems of managing and developing Canada's renewable natural resources. Out of it came recommendations for closer co-operation between Ottawa and the 10 provinces in all matters involving water, soil, forests, wildlife and air.

"Responsible ministers in all governments are now studying those recommendations and preparing to take action," Mr. Dinsdale said. A meeting of the committee of ministers next month will "come to some definite conclusions" on specific programs.

SUSPEND DUCK SEASON TO HELP WATERFOWL

On November 24, 1961, Mr. E. L. Paynter, provincial wildlife director, told an open meeting in Prince Albert that "if there is no improvement in the spring run-off in 1962, there is a strong possibility that the duck hunting season might have to be closed."

Mr. Paynter said that in addition to the natural drying out of many sloughs and ponds during 1961 a great many tracts of wet land have been drained for agricultural purposes "adding to the precarious situation."

He said, "it is important that the multiple use of land is carefully considered to protect the wildfowl population." Mr. Paynter pointed out that many of the tracts drained now have to be reflooded after having been found unsuitable for agricultural purposes.

Editor's Note—The important thing in helping our wildlife is to provide them with suitable space in which they can live. Farmers in this province have done much by leaving certain places natural. It is time we all helped, and it is heartening to know that we can soon help and that farmers will be paid to leave sloughs and some unharvested grain for ducks and other animals. We also note with satisfaction that "to insure waterfowl for the future by conservation of wetlands which benefit man and wildlife" has been taken as the theme for the U.S. National Wildlife Week, March 18-24.

PLANS FOR A SMALL SANCTUARY

by **Walter Riome**, Moose Jaw

Last spring I planted 3,000 trees and berry-bearing bushes on my 160 acres, two miles north of Old Wives' Lake. There was so little rain during 1961 that I wonder how many of my trees will survive. The dug out, 180 x 80 x 12 feet deep, built by the P.F.R.A. was a great success for it struck a spring and now contains seven feet of clear, soft, spring water. The birds and animals and farmers for five miles around came for water from the well and dug out. Ducks and geese came in to the spring and once I saw four White-tailed Deer taking a drink. I plan to increase the area planted to trees and shrubs and to take all the land out of cultivation. There are a couple of nice sloughs, bordered by shrubs, and I think the area will make an excellent small sanctuary. I hope to have a gathering of natural history people there some day.

RED FOX IN SOUTHWESTERN SASKATCHEWAN

by **Terry Wedge**, Saskatoon

Although Burt and Grossenheider's **A Field Guide to the Mammals** shows all of Saskatchewan as within the range of the Red Fox, there have been apparently no records of Red Fox in extreme southwestern Saskatchewan. W. H. Beck's **Guide to Saskatchewan Mammals** (1958) states that "there are few or no individuals in the southwest portion." I wish to record one which was seen while I was working for the Saskatchewan Museum of Natural History (archaeological expedition) in the summer of 1960 near Gull Lake. On July 10 of that year several of us saw a Red Fox running parallel to the road on which we were travelling, and possibly thirty or forty yards from our car, and on a field which was very lightly vegetated. Several of us saw it and none of us doubted at all that it was a Red Fox. Not knowing the importance of the observation at the time we neglected to record the location, but it was within approximately a three mile radius of section 5, township 12, range 19, west of the third meridian.

Notes and Letters

BEAVER ON THE TREELESS PLAINS

It was a Sunday evening in late spring of 1961 that we drove out to the Greenfield farm, southwest of Nokomis, to see the beaver dam. We not only found the dam, but we were introduced by the Greenfields to their miniature wildlife preserve, appropriately close to the oldest wildfowl preserve on the North American continent, the Last Mountain Lake Bird Sanctuary.

The dam was a very real beaver dam, and very sturdy. Two beavers had moved in the previous summer (1960) through a chain of creeks, from somewhere up north, and late that July they began building the dam. Then they left and returned again in the spring of 1961, to complete their project. The water behind the dam is about eight or nine feet deep, and the beaver family have constructed their dam in such a manner that they have about four feet of water below the dam in which they can swim about with their offspring. The family increased by two in the spring of the year.

About 500 feet downstream, they constructed a secondary dam to take the pressure off the main dam, and a further 75 to 100 yards around the next bend lay another dam. The beavers made a slide for themselves where they could tumble freely down the steep 25-foot bank with green poplar and willow branches they used to build their dam.

Late in 1961, the beaver family moved to a new location, one mile to the east, where a more plentiful supply of water existed. They built a new domicile, and the solicitous Greenfield brothers hauled poplar logs, boughs and branches to the top of the bank. "In short order," said Ab Greenfield, "the beavers dragged them down to the water." And now the beaver and their offspring are cozy and contented for the winter.—**Edythe Humphreys**, Nokomis.

DECEMBER COVER PHOTO

Best answer to "What is it and where?" comes from **Miss Mary K. Anderson,** Box 90, Carlyle: "Though it is over thirty years since I have been anywhere near this part of the province, I believe, in fact I am sure, the group of buildings in right background is the Claybank brickworks, and the elevators and buildings in centre background, the village of Claybank. The peculiar hill in left centre would be the hill from which the clay is obtained."

WINTER BIRD COUNTS

Those hardy souls who ventured forth at Christmas for Saskatchewan's annual bird count would be envious of the species listed in the census reported to Manley Callin by his twin brother **Elmer Callin** at Revelstoke, B.C., or of the list of birds that **Victor Wisner** reports coming to his feeder at Elberon, New Jersey. Among the 30 species listed by Elmer Callin two represent first records for him at Revelstoke—a a Goshawk, and a Ferruginous Hawk (which is on the hypothetical list for B.C.). At his feeder he had about 12 Varied Thrushes, 4 Robins, 2 Red-shafted Flickers, Hairy and Downy Woodpeckers and 2 Song Sparrows. At the Wisners' New Jersey feeder no less than 20 species were present as of December 9!

NATURE PRESERVES

A letter from **Harold Baldwin,** Swift Current, describes his personal efforts to provide shelter for wildlife. He has planted trees and shrubs on the three lots at his home in Swift Current and is trying to preserve a quarter of land that he owns in its natural state. Plants started there 30 years ago have grown amazingly and the wee lake supports myriad water birds. This quarter is submarginal agriculturally but in other ways it has real value and the Baldwins are quietly working toward increasing its value.

In the northeast corner of the province a similar effort is being made by **John L. Johnson** at White Fox to promote the idea that the future of wildlife depends on farm woodlots and community forests. He feels that a managed forest would safeguard future timber supplies, shelter wildlife and provide a new occupation for local residents.

BIRDS AND BIRD NESTS

Dora Bardal writes from her new address, 1626 W 13th Ave., Vancouver, to ask for contacts with any people in Vancouver interested in birds. In the heart of the city there is little bird life except for numerous gulls flying over, and robins that stay all winter. One wild bird new to her was the Japanese Starling with its musical voice.

Auguste Viala of Prince Albert, who farmed for many years near St. Louis, about 30 miles from Prince Albert, writes of the many interesting birds' nests he has found over the years. Watching through the summer, he has noted the early nesting of the Great Horned Owl (eggs on March 25) and the late nesting of Barn Swallows, one of which laid eggs in a grain bin in August and then followed the bin when it was moved 50 rods away, to resume hatching the eggs. What Mr. Viala describes as his most interesting sight was a pair of Burrowing Owls which nested 10 miles from his farm. Three little owls and an adult were seen on one occasion sitting on a fence near their gopher hole nest, and some time later one fluffy young bird was seen on a grain swath. The single breeding record for the Prince Albert area submitted by Furniss for Houston and Street's **Birds of the Saskatchewan River** (1959) appears to refer to these very owls!

RED OSIER DOGWOOD

A letter from **P. Fraser,** Wolseley, comments on the excellence of Dr. McCalla's photo of the Red Osier Dogwood and tells us some of its uses. The younger, supple branches of this shrub were used by settlers to tie the parts of rail fences together, and by the Indians as a source of their kinnikinick. In preparing kinnikinick, which they smoked in their pipes when tobacco was not available, the Indians selected the smoother red sticks of dogwood which were easy to peel, pared off the thin red bark, then scraped off the inner bark and dried and smoked this material. Mr. Fraser comments further that Bearberry, *Arctostaphylos uva-ursa* (L.) Spreng, was also used as kinnikinick.

BUFFALO SKULLS

Two photos of buffalo skulls (see fig.) were sent to us in a letter from **Ernest J. White,** Dunrea, Manitoba. The first skull measured 21½ inches from one horn point to the other, the second was 24 inches. Mr. White tells that they were found in a deep ravine in what was once a buffalo wallow.

WHY DON'T WE HEAR FROM THE ROCK HOUNDS?

Miss Dora Doolittle of Oungre, Sask., is a pensioner who has rocks for one of her hobbies, and has made many new friends in this way. She has now a good-sized collection which has been of interest to many others beside herself. She wishes the **Blue Jay** had contributions from the "Rock Hounds".

EFFECTS OF INSECTICIDES

E. E. Symons of Rocanville, one of the **Blue Jay's** most faithful contributors, reports on some interesting observations made by his neighbours, **Mr. and Mrs Cliff Nixon.** The Nixons have been concerned about the effects of insecticides. A couple of years ago, when cutworms were bad and they treated their potatoes with aldrin, they noticed two days later that in two nests of young Robins which they had been watching, every young bird was dead, presumably from eating poisoned worms.

RESOURCES FOR TOMORROW

Copies of the two-volume set of background papers are presently in public, university and other libraries in the province. A third volume, to include the actual transactions and papers delivered, is now being prepared by Mr. Jack Kinzel of the Department of Industry and Information.—**Douglas E. Wade,** Regina.

OBSERVATIONS OF A HUNTER WASP

One hot July afternoon (1961) I saw what I thought at first to be a large green insect walking in the weeds along the driveway. Closer inspection showed it to be a hunter wasp dragging a green caterpillar twice its size. I followed its progress for 25-30 feet, amazed at the way in which it hauled its prey over and around obstacles. The caterpillar was completely immobilized. The hunter wasp paralyzes its victim with its sting in order to supply living food, preserved without decay, for the larva which hatches from the egg laid in a nest prepared ahead of time. The wasp was a black ant-like insect, about the size of the better known yellow jacket wasp, with longer legs and a more slender body. After a time the wasp dropped its prey on a small sandy clearing and opened up a small hole. It then dragged the caterpillar down into what must have been a tunnel at least longer than the caterpillar and wasp together. The wasp went in and out several times. Finally, it painstakingly pushed one large pebble into the opening of the tunnel and arranged sand over it to hide it.—**Jack Ferguson,** Radville.

(Continued from page 9)

street, we sent the band to the U.S. Fish and Wildlife Service for information about the bird. It proved to be a female Purple Finch banded May 31, 1960, by Dr. C. Stuart Houston.

The year before one of Dr. Houston's banded Purple Finches was picked up in the same way in Yorkton. Peter Scott found a dead Purple Finch on April 30, 1960, that proved to have been banded on May 17, 1959, in Yorkton (cf. **Blue Jay,** 19:21).

The BLUE JAY BOOKSHELF

ECOLOGY OF THE ASPEN PARKLAND OF WESTERN CANADA. By Ralph D. Bird. 1961. Publ. 1066, Research Branch, Can. Dept. Agr., Ottawa. 155 pp., 57 figs., 3 maps. $3.00.

Surely this book started back in the 1920's when Ralph Bird came strongly under the influence of Norman Criddle and the other naturalist members of a remarkable family of Manitoba wheat farmers. In the following years Mr. Bird engaged in a prodigious amount of field work, combed the literature and carried on an extensive correspondence. His book lists 201 references, and the index, one discovers as I did on making a count, contains the names of some 147 persons, many of them naturalists or scientists. One cannot but be impressed by the amount of work and time put in by Mr. Bird.

The book is remarkably free of typographical errors. One can only regret that the late Lois Bird, wife of the author, who assisted him in checking the manuscript and preparing the excellent index, did not live to see the book in published form.

Ralph Bird is a cracking good naturalist. He is active in the Natural History Society of Manitoba. Through his work in the Entomological Laboratory of the Canada Department of Agriculture, in Winnipeg, and his association with the Criddles and other naturalists, he has gained an ecological comprehension of the aspen parkland. He has organized and interpreted an almost bewildering number of raw facts, and the text of his book and its 57 illustrations provide an excellent non-statistical introduction to the ecology of the area. The illustrations tell so much of the story that the reviewer wished for a series of Kodachrome slides or a motion picture in colour covering the same subject matter. The three maps showing the parent material of Manitoba's soils and the past and present extent of the aspen parkland of western Canada are most useful. One of the maps was done by Ernest Thompson Seton in 1905.

Ecology is a subject in which one studies the distribution and numbers (populations) of plants and animals and their relationships to their surroundings, as well as to each other. "Relationships" is a key word in this rather simplified definition. Aldo Leopold defined ecology as a study of "the natural processes by which the land and the living things upon it . . . maintain their existence." William Vogt, primarily interested in human populations and their effects upon resources, described ecology as "the dynamic and interdependent actions that take place in environments."

Ecology, in large part, is natural history grown up and modernized, but **identification** and **life histories** are still basic to it. Ecological studies, in the past 50 years, have been greatly stimulated by improvements in transportation, mapping, aerial photography and field photography, meteorology, statistics and electronics. Specialists in these technical fields have aided in amassing and interpreting great amounts of material. However, amateur naturalists continue to be needed, willing to pool or pass along their observations. Journals like the **Blue Jay** can do much to keep amateurs and specialists in touch with each other. Another great need is for courses in natural history and biology based on an ecological approach to be given in our schools and teacher-training institutions.

The **Ecology of the Aspen Parkland** is primarily "an account of the original ecological conditions and changes that have taken place during settlement of the aspen parkland in Manitoba and eastern Saskatchewan." A line drawn from Edmonton to Winnipeg, passing just north of Saskatoon and between Melville and Yorkton, cuts through the centre of the diagonally - positioned aspen parkland in the prairie provinces. There are islands and stringers (peninsulas) elsewhere in these provinces and in Montana and Minnesota.

The author has treated the ecological changes in the area in a traditional non-statistical manner, starting with the parkland in its undisturbed condition, then touching on surface geology and soils and their origin.. He then deals with the plant and animal components of five kinds of grassland communities, six forest communities, and a variety of distinctive aquatic communities. Successional changes are described, followed by a brief discussion of the influences of dominant animals, Indians and fire.

The bison ("buffalo") was a dominant animal and Mr. Bird (see pp. 27-28, p. 58, and fig. 11) relies largely on observations made by Alexander in the early 1800's and reported by Coues in 1897 to point out that bison may have caused serious destruction of habitat. This seems at variance with a statement made by J. Dewey Soper (1941. History, range and home life of the Northern Bison. **Ec. Mon.**, 11:347-412), the only ecological study on bison listed by Mr. Bird. Although he lists Soper, Mr. Bird does not refer to his statement concerning an area with a modern bison population (presumably not as large as populations further south): "Considered as a whole, Wood Buffalo Park bison exert little lasting effect on their physical surroundings."

Since too many factors were not observed or reported by early observers, we shall probably never know precisely the bison's impact on its environment. However, the reviewer feels that Mr. Bird might have consulted further references. He does not list such references as J. A. Allen's article "History of the American Bison" (1877), E. Douglas Branch's **The Hunting of the Buffalo** (1929), Martin S. Garretson's **The American Bison** (1938), Francis D. Haines' article "The Western limits of the Buffalo range" (1940), Wm. T. Hornaday's article "The extermination of the American Bison" (1889).

The remainder and largest part of Mr. Bird's book, following a brief history of settlement, is devoted to discussing changes that have occurred in the various communities of plants and animals found in the aspen parkland.

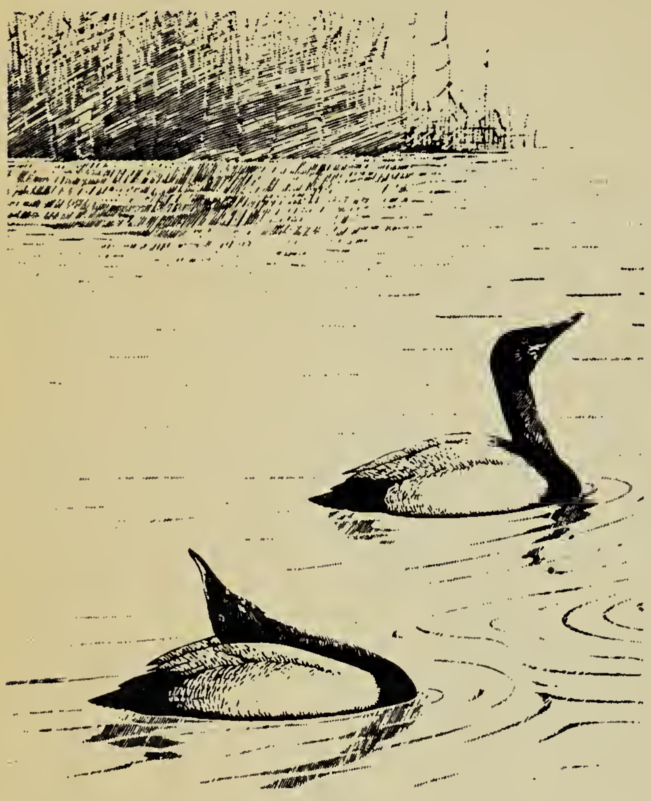
This publication will serve many kinds of land users and professional field men as well as amateur naturalists. For management is really applied ecology. Better management of renewable natural resources depends in large part upon how well ecological inter-relationships are worked out. This is true for all forms of agriculture, forestry, fisheries, and wildlife management. It is likewise applicable to urban and rural planning and development and to the development of parks. Some of the best progress in management seems to this reviewer to come about when a fair number of administrators, planners, legislators, and field men are steeped in the ecological approach. Unhappily this is all too rare.

Pesticides have been widely used in the present decade and Mr. Bird does great service in pointing out the "broad ecological effects" of the use of insecticides, herbicides and poisons. His statement that "much more research is needed" on the use of pesticides is perhaps the understatement of the book. Commercial firms manufacturing pesticides simply cannot or will not engage in the necessary field investigations. Government officials, at the mercy of "economic" forces which can be translated into votes, are simply not trained as yet to consider broad ecological effects or to insist on the rigorous prolonged research needed. No one denies that agriculture needs protection against weeds, grasshoppers, etc., but it is fatally shortsighted not to take into consideration other effects of pesticides.

Indeed, Mr. Bird's book is an eye-opener for any of us who care to read it. Particularly, it is a stimulus to get out into the field and see for ourselves. It's an important book, too, for it may help many readers acquire an "ecological conscience". The prairie provinces need many more publications like this one, in which the ecological implications of natural history are emphasized. Mr. Bird has pioneered with this book, as far as the prairie provinces are concerned.

The reviewer is already looking forward to trips into the aspen parkland of Saskatchewan, and to using Mr. Bird's book in developing interpretive programs for several of the province's parks.—**Douglas E. Wade**, Regina.

ANNUAL REPORT OF THE DEPARTMENT OF NATURAL RESOURCES, PROVINCE OF SASKATCHEWAN, for the fiscal year ended March 31, 1961. Queen's Printer, Regina, 1961.



This sketch by Ralph Carson of the "Courtship Display of Canvasback Ducks" forms the attractive cover for the current report of the Saskatchewan Department of Natural Resources (report available upon request from the Dept.). The note with the cover sketch says: "Saskatchewan is the chief contributor in the prairie area of western Canada that normally produces 55 to 60 per cent of the total North American duck population. In order to continue this production, it is estimated that some 7,000,000 acres of wetland habitat must be maintained in the Canadian prairie provinces. Important as they are for waterfowl, wetlands also are essential for many other forms of wildlife that enrich our lives, both economically and aesthetically."

THE LONELY LAND. By Sigurd F. Olson. 1961. Alfred A. Knopf, Inc., New York (in Canada, McClelland & Stewart, Ltd.). 275 pp., illus. by Francis Lee Jaques, map. $5.00.

> I looked over the wilderness of islands and rocky shores, the slopes of pine and spruce with broad valleys in between, and thought of man's conquests in outer space and the meaning of the new universe he is discovering. Somehow it did not seem as important as what I saw before me.
>
> —from **The Lonely Land.**

Imagine starting out on Saskatchewan's lake Ile-à-la-Crosse and canoeing down the Churchill River, crossing at historic Frog Portage into the Sturgeon Weir river and finally ending up at Cumberland House—a trip of some 500 miles. Sig Olson and five companions did this in twenty glorious days of adventure. They moved through what was largely unmarked wilderness.

No speed records were set by these modern voyageurs. Their skill and knowledge was directed to the enjoyment of the wild elements of nature. They knew something of the history of what brave explorers, voyageurs, fur traders and geologists had done previously on this great northern river route across Saskatchewan, and they recaptured some of that history.

At Frog Portage the party met up with Harry Moody (the same Mr. Moody who received the Saskatchewan Natural History Society's 1960 Conservation Award) and through him and his Indian friends learned some of the history and Indian lore of this bit of back country.

Each man of the Olson party was re-conditioned by the rigours of the trip. Even though they did not make a great number of natural history observations, the party caught the feeling of wilderness country.

People in government and private enterprise who have it in their hands to shape much of the future of Saskatchewan's lonely lands of the north should read very seriously what Mr. Olson has to say about wilderness. For, through his books and work, he is one of the great students and champions of wilderness. Sig Olson desires that a great many more people learn the meaning and significance of wilderness in the space age.

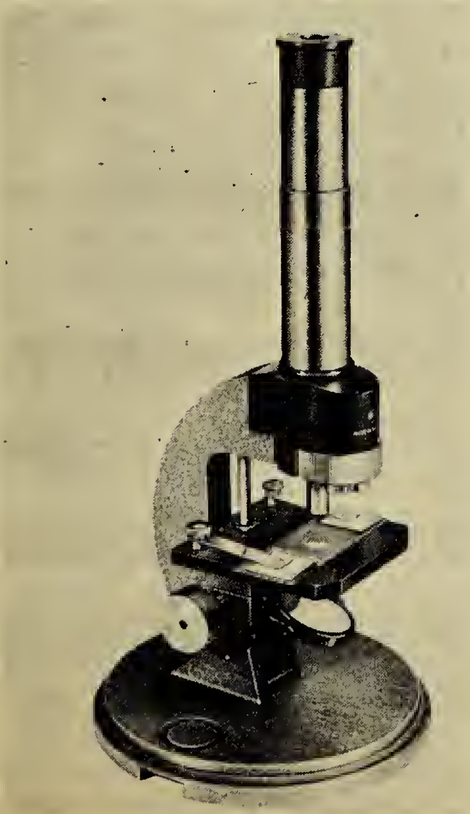
There is urgency in what he says. In the six years since the Olson party made its trip, the wilderness it traversed has been broached at several places: at Otter Rapids on the Churchill a bridge now spans the river; a townsite has been laid out at Otter Rapids, and at Missinipi, a few miles away on an arm of the river, buildings are already going up in full view of river traffic. Farther east, the Sturgeon Weir has been crossed by a bridge of the Hanson Lake Road and another townsite has been surveyed and is being occupied. Outfitters are moving out from these locations and taking up choice locations for their camps to attract fishermen and hunters.

Penetration of much of Saskatchewan's north country by roads, bridges, townsites, dams, logging, mining, hunters, fishermen, outfitters, trappers, recreationists, and even agriculture is inevitable. However, there are manners and methods of using and treating wild country so the scars of development do not become too hideous and so that the values of a wilderness are not totally destroyed.

Of course, the one sure way to ensure preservation of some wilderness is to set aside sufficient tracts of land, lakes and river ways as wilderness in perpetuity. Already the province, through certain forest regulations, has taken steps to preserve the natural appearance of lands around lakes, along rivers and highways by leaving buffer strips of unharvested forest. The real need, nevertheless, is to set aside solid and sufficient tracts to remain as actual wilderness.

The people of Saskatchewan through their government will need to exercise great foresight to ensure the establishment and preservation of wilderness and natural areas throughout the province. They will have to fight dollar pressures which resist the establishment of wilderness tracts. The great value of true wilderness is not generally enough recognized; the concept of wilderness preservation is relatively new in Saskatchewan. Aldo Leopold gave specific direction when he wrote: "Recreational development is a job not of building roads into lovely country, but of building receptivity into the still unlovely human mind." At this moment, the only groups I see in Saskatchewan working toward this goal suggested by Leopold are the natural history societies. Even these groups are in great need of understanding the wilderness movement.

The Lonely Land is a good book; it's part of Saskatchewan and part of North America. Here in the lonely land is another testing ground to determine whether or not the fight can be won for the preservation of natural pristine beauty.—**Douglas E. Wade**, Regina.



THE MEOPTA A2-1

A good quality, long-lasting microscope
Public School Microscope

Clear optics. Wide field.
Magnifications, 50X, 100X, 300X

Price to schools
Only $34.50 Delivered

Price to Individuals $37.90
(Duty and Sales Tax included)

WESTERN LABORATORY SUPPLIES
1008 EIGHTH STREET EAST
SASKATOON, SASK.

JUNIOR NATURALISTS

Edited by **Joyce Dew,** Saskatchewan Museum of Natural History

Alan Wade (left) and Bob Clements (right) and Caesar Augustus II.

CONTEST — SPRING OBSERVATIONS

Rules: (1) Any boy or girl 16 or under may enter. Entries will be judged according to age.

(2) Send contest entries to: Miss Joyce Dew, Saskatchewan Museum of Natural History, Regina, Sask., to arrive not later than April 15. Sign your entry with your name, age and address.

(3) Make a chart similar to the following: Some examples of what you might put down are shown:

Date	Name or Description	Place	Where Seen (Habitat)	Other Observations
Mar. 1	Horned Lark	Regina	Near Roadside	Flying in air, singing.
Mar. 2	Horned Lark	Regina	Stubble Field	A flock of about 20
Apr. 10	Pussy Willows	Regina	Along roadside	yellow pollen on catkins
Apr. 30	Frogs	Regina	heard in ditch	sounded like several.

This is just a suggestion. What we want are your observations of birds, mammals, insects and other animals, as well as plants as you first see them in the spring.

This is **not** a contest to see who can get the longest list or who has seen the bird the earliest. We are interested in what you note down or observe about habits and habitat (where the animal or plant lives). Use your own ideas. You do not need to use the same kind of chart we have shown here. Make up one of your own to suit your own needs.

NEWS FROM JUNIOR MEMBERS AND CONTEST WINNERS

Junior Members are to be congratulated for the excellent job they have done of reporting their activities and observations.

We would like to remind the boys and girls who send in drawings to the **Blue Jay,** that they should be of birds you have seen and know well, so that even if you have to look at pictures of the bird to help you with your drawing, you can still add something to it of your own. We are always pleased to get observations of the bird along wtih your drawing. You will note that Bohdan Pylpec has done this. We think his observations on the Chickadee are particularly well done.

One of our new members asked if anyone could join the Junior Naturalists. Most certainly! All you have to do is send in a letter, poem or drawing about some of your nature observations.

We are sorry we couldn't include the poem Gloria Tommila sent in, in this issue, but will hold it over for publishing at a later date.

We are awarding the prize this issue to the three boys who wrote about their winter camping experiences. This is a well written account of an unusual experience in this country and the boys are to be congratulated for managing to survive as well as for their account of their experiences.

AMPHIBIANS AND REPTILES IN SASKATCHEWAN

by **Alan Wade**, age 14, Regina

Editor's Note: The following is an extract from a 15 minute talk given by Alan Wade to the Regina Natural History Society. Alan described and showed slides of Saskatchewan's reptiles and amphibians.

"On May 21, 1961, while canoeing in the vicinity of Craven on the outflow stream from Last Mountain Lake, I witnessed a Plains Garter Snake swallowing an adult Tiger Salamander. The snake, with a part of its tail missing, would probably have exceeded 30 inches in length. I captured the snake and it is now in the collection of the National Museum.

"The Wood Frog, a medium sized frog, is found in the Boreal Forest and the Parkland zones, but is largely absent from the Grasslands. Here is a frog which can change colors from almost a black to a very light color. Two Wood Frogs I captured north of La Ronge and now have alive in a terrarium, show this ability to change color very nicely.

"The Western Painted Turtle is a strong swimmer. It suns itself on logs, projecting objects, or open sloping banks next to water. It is very wary, as I discovered this spring in trying to capture some on the Qu'Appelle River, and will dive or slide off long before you can get close.

"Several years ago a large Bull Snake was captured alive in the Big Muddy by Dr. Nero and Joyce Dew. I now want to show you Caesar Augustus the Second who resided for a few years at the Museum and was viewed by many thousands of people. This famous snake, which is almost six feet in length, now lives at the Wade household and is visited frequently by neighborhood and other children and adults.

The Bull Snake, because it consumes many rodents, especially "gophers", rats and mice, is a great friend of the farmer. Bull Snakes should be given full benefit of protection wherever found.

"Mr. J. J. Deck, who has written on snakes for the **Blue Jay**, in a recent letter to me described some of his adventures with rattlesnakes. I quote one paragraph from his letter:

'I myself did not dislike the snakes, in fact I liked them. They, like every other living creature here in our part of the world do not look for trouble, and if trouble (like me for instance) came their way, they tried their level best to get out of the way and only took a stand to fight when they got cornered . . . I even know of some farmers that would not let any be killed on their farms because they kept down the gopher, mouse and rat population.'

"Perhaps some of you may wonder why I am interested in amphibians and reptiles and how I got started. Perhaps my curiosity was aroused early by a huge Loggerhead Turtle I discovered on a South Carolina beach. Or, maybe my interest increased when I held a large eight-foot Indigo Snake at the famous Ross Allen reptile exhibit in Florida."

REPORT FROM BRANDON JR. BIRD WATCHING CLUB

by **John Nicol**, Brandon

This spring the Brandon Junior Bird Watching Club set up a number of nests as a club project. The results were as follows: Tree Swallows (64), House Wrens (18), House Sparrows (7), Flickers (1), Starling (1), Vacant (28), Stolen (2), Total 121.

One duck nest was put out but it was inhabited by a wren family.

A GOLDEN EAGLE

by **Douglas Young**, age 12, Shaunavon

On my bird count I saw a Golden Eagle. In the spring my friend and I went to see if we could locate it again. We drove to the White Mud River. Scanning the cliffs through the binoculars we spotted it sitting on a crag. We drove closer and the eagle flew away. We approached cautiously and discovered the nest which was about twenty-five feet up the cliff.

The nest was constructed of branches and was about eight feet long, three feet wide and nine feet deep. On it was one eaglet. I didn't make any sound as we approached. It was covered with blackish feathers with white spots. Its wing span was about three feet.

All the while we were there we kept an anxious eye on the Western sky for the return of the mother bird.

A WINTER CAMP ON BOGGY CREEK

by **Alan Wade, Jack Wessel** and **Bob Clements**

Arrangements for an over-night winter camping trip were worked out according to expected weather conditions — temperature, wind and snow.

On December 23, we made a trip to Boggy Creek on the Gilroy farm to scout out a location for our camp. A good site, about one half mile from the farm, had an ample supply of dead wood available and was protected somewhat from the wind. We started a woodpile.

After several trip postponements, we decided during the evening of December 29 to go out the next day. In the morning it didn't take long to get the car loaded and within an hour we were at the camp site. We hauled sleeping bags, food, cooking equipment, axe, saw and several tarpaulins on a sled and a toboggan. We worked from 10 in the morning until 4 that afternoon gathering wood, taking time out to cook lunch. Then we worked on a three-sided shelter, 12 by 9 feet by 5 feet high, making a roof and floor out of the tarps. Small tarps formed walls, which we had intended to bank with snow.

We all slept inside a double sleeping bag and were kept warm by a fire reflected back into the shelter by a three-foot wall of snow. About every two hours during the night some one had to feed the fire.

In the morning Mr. Gilroy came down to visit and take some photographs. We must have smelled pretty smoky to him.

We managed to have three hot meals and did dishes twice (a third time, at home). We went on one midnight trip along the creek. Deer tracks were plentiful, but we didn't see the Horned Owl we'd spotted the week before. Although one member of the party was convinced there were wolves, it was only the Gilroys' dog barking. A Chickadee sat a few feet above us and watched us eat breakfast.

After testing some of the deeply drifted hillsides along the valley for coasting, we decided to pack up. A call on the Gilroy phone soon got our transportation out from Regina. Then after a pleasant visit and some hot drinks at the Gilroys, we were on our way back to town.

We were glad we had gone on a "winter" camping trip, even though the temperature did go more than ten below, and we felt quite cold in the morning. We found that we could survive in reasonable comfort, provided we could get protection from the wind and have plenty of firewood.

SURPRISE

by **Michael Gollop**, age 11, Saskatoon

On October 29, 1961, my parents and I drove up to Borden Bridge on the North Saskatchewan River to look for migrating hawks. We found a good height of land from which we could see for several miles up and down the river. Below us as we arrived were two adult Bald Eagles perched on a tree. One Mallard took off from the river after a few minutes. Slate-colored Juncoes and a Blue Jay made frequent flights to a near-by granary. In a few minutes 13 big Canada Geese flew over the river. Two deer came to drink on a sandbar. Three Tree Sparrows were seen feeding at the granary. Hawk-wise our trip was a real success. Our total for our afternoon's effort was: 3 Bald Eagles, 2 Marsh Hawks, 1 Rough-legged Hawk, 3 Red-tailed Hawks, and 8 Buteos. The big thrill of the afternoon was the sighting of a Steller's Jay. The jay landed on a fence post not 100 yards from the car. Our first impression was that it was a second Blue Jay. Closer inspection proved otherwise. The bird was a deep blue, the lower back being extremely dark. The head had a large thin crest. The bird was lacking the wingbars of the Blue Jay. In all, this was a truly successful afternoon.

Painting by **William P. Saban**, age 13, Kelvington

A MANITOBA WINTER

by **Gloria Tommila,** age 10,
Elma, Manitoba

Now in the middle of our cold Manitoba winter, a great number of birds come each day to the feeding station in our yard.

The most colourful are the Blue Jays. They are so bossy and greedy. They seem to take more than all the other birds put together. They fill their beaks then fly off to a bush nearby and fly back for more. I suppose they are hiding food for a future "rainy day".

The wee little Chickadees are so tame I can walk up to them and almost "put salt on their tails". They prefer fat meat to any other food.

A very attractive group of Evening Grosbeaks come around now and then. The eat the seeds of our maple trees and honeysuckle bushes. They are very wasteful and never go down to the ground to pick up the seeds they drop. It will serve them right if they go hungry some day.

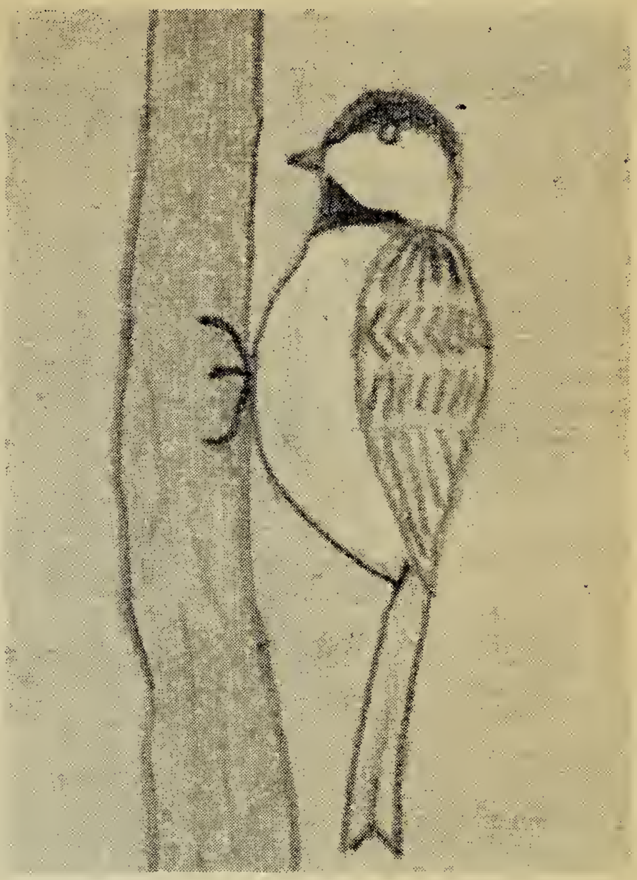
Around December 1st when there was already some snow on the ground a lonely blackbird was found around our barnyard. It ate grain from the cattle feed in the loose-housing barn. It stayed around for about a week then disappeared suddenly. Mom said it must have died from the cold.

The first heavy snowfall of the season was mixed with rain and sleet so it clung to the trees. The branches were heavy and hung down like the ears of a Saanen Goat. The shrubs in our yard looked like heaping bowls of whipped cream. The last summer's bird nests up in the trees resembled generously filled ice-cream cones. It was a very interesting creation of Nature. When the moonlight shone on the snow it glittered with millions of stars like a picture on a Christmas card. Truly a beautiful sight.

CHICKADEES

by **Bohdan Pylypec,** age 11,
Yellow Creek

Chickadees are not very wild. Those by our house are so tame that occasionally one perches on my hand if I remain quite still. I've built a feeding tray and hung it on a tree near our house. The feeding tray consists of three walls, a sloping roof, and the shelf on which the birds feed.



The chickadees eat there mostly in the morning and early evening. At night the chickadees rest in their nests in hollow trees.

SQUIRRELS

by **Irene Pylypec,** age 9,
Yellow Creek

Squirrels are interesting animals. I am trying to tame a Red Squirrel by our house. I give it nuts and watch it nibble them. The squirrel stands up on its hind feet when it is eating and holds the nut with its front paws while its tail is curled up on its back.

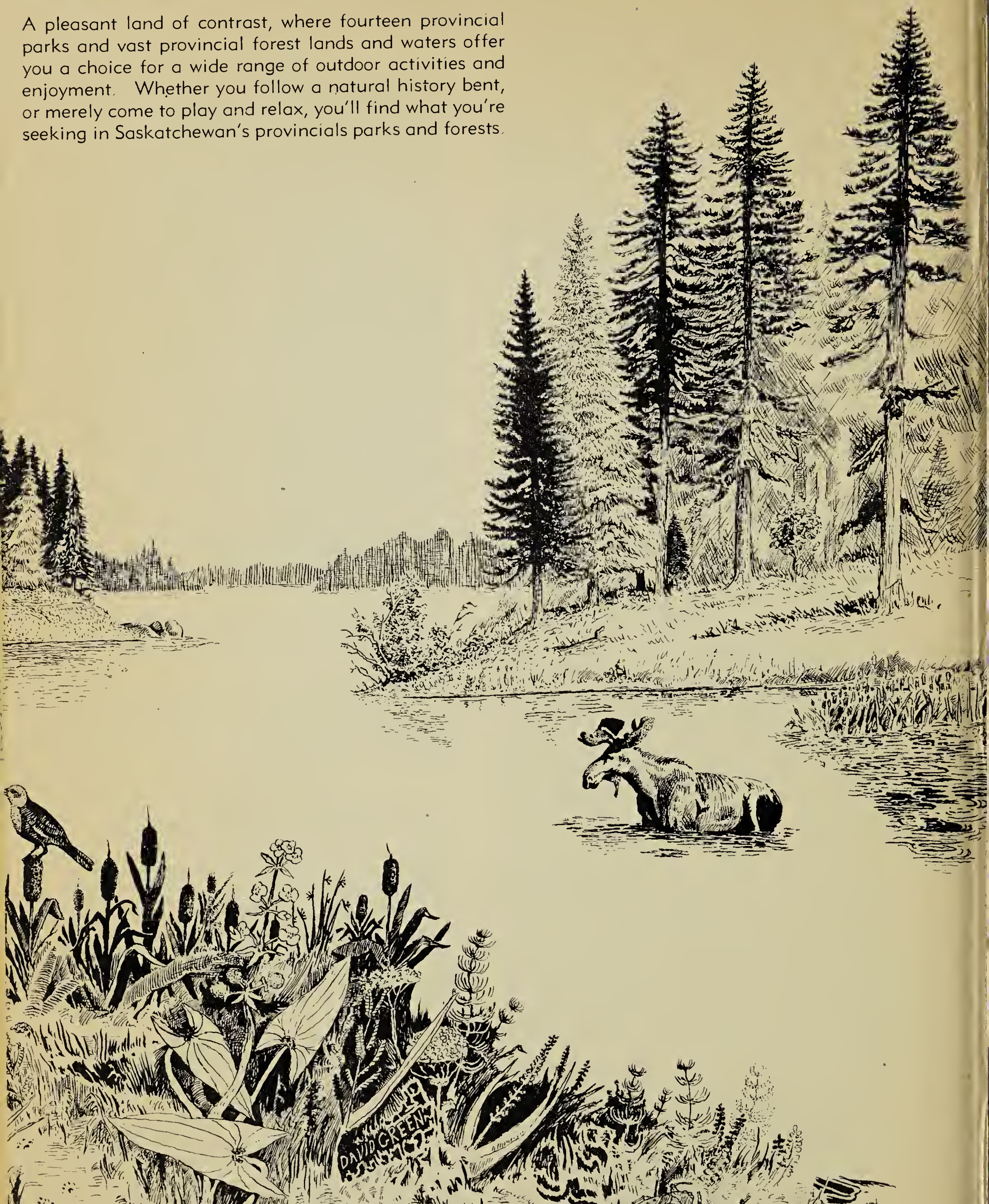
THE PURPLE MARTIN

by **Marion Kruppi,** age 10,
Rhona Lake

We had a family of Purple Martins in our school yard this summer. Mr. Isinger, our teacher, built a house for four families. We watched the martins but we don't know how many eggs they laid. When the babies hatched, the parents were kept very busy finding insects. When the martins finished using their nest, Mr. Isinger took the house down, cleaned it out and put it away for next year.

SASKATCHEWAN . . .

A pleasant land of contrast, where fourteen provincial parks and vast provincial forest lands and waters offer you a choice for a wide range of outdoor activities and enjoyment. Whether you follow a natural history bent, or merely come to play and relax, you'll find what you're seeking in Saskatchewan's provincials parks and forests.



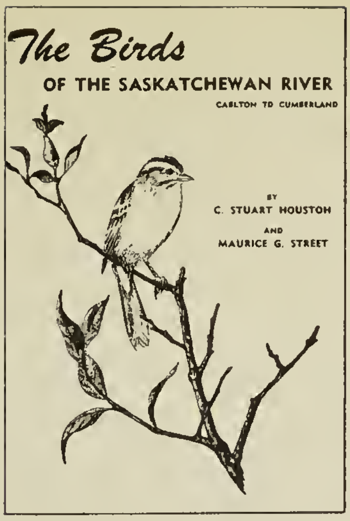
A. G. KUZIAK
Minister

CONSERVATION INFORMATION SERVICE
Province of Saskatchewan
DEPARTMENT OF NATURAL RESOURCES

J. W. CHURCHMAN
Deputy Minister

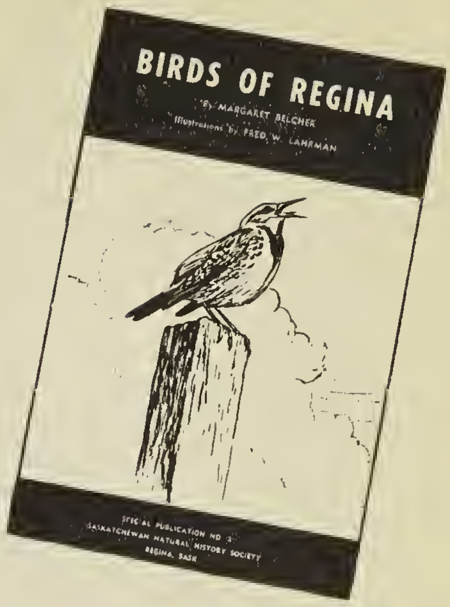
A Guide to Saskatchewan Mammals
by
W. H. BECK

SPECIAL PUBLICATION NO. 1
SASKATCHEWAN NATURAL HISTORY SOCIETY
REGINA
1958



The Birds
OF THE SASKATCHEWAN RIVER
CARLTON TO CUMBERLAND

BY
C. STUART HOUSTON
AND
MAURICE G. STREET



BIRDS OF REGINA
By MARGARET BELCHER
Illustrations by FRED W. LAHRMAN

SPECIAL PUBLICATION NO. 3
SASKATCHEWAN NATURAL HISTORY SOCIETY
REGINA, SASK.

S.N.H.S. Special Publications

No. 1.	**A Guide to Saskatchewan Mammals**—W. H. Beck (1958)	$ .50
No. 2.	**The Birds of the Saskatchewan River**—C. S. Houston and M. G. Street (1959)	$1.50
No. 3.	**Birds of Regina**—Margaret Belcher (1961)	$1.00

Order from **The Blue Jay Book Shop, Sask. Natural History Society, Sask. Museum of Natural History, Regina, Sask.**

ALSO AVAILABLE AT THE BLUE JAY BOOK SHOP: Selection of hasti-notes, postcards, Kodachromes, handicraft, natural history guides (including Roger Tory Peterson's **Field Guide to the Western Birds,** rev. ed. at $5.95 plus tax).

ANNUAL SUMMER MEETING
Fort Qu'Appelle, June 15-17

PROGRAM

FRIDAY, JUNE 15

7:00 p.m. Registration. Valley Centre.

8:00 p.m. Business Meeting and Program. Valley Centre Recreation Hall.

SATURDAY, JUNE 16

An all-day field trip will be the main feature of the 1962 meeting—expedition by car along the lakes of the Qu'Appelle system. Manley Callin will act as guide to this area, which he knows so well and which will be covered by his forthcoming **Birds of the Qu'Appelle Valley.**

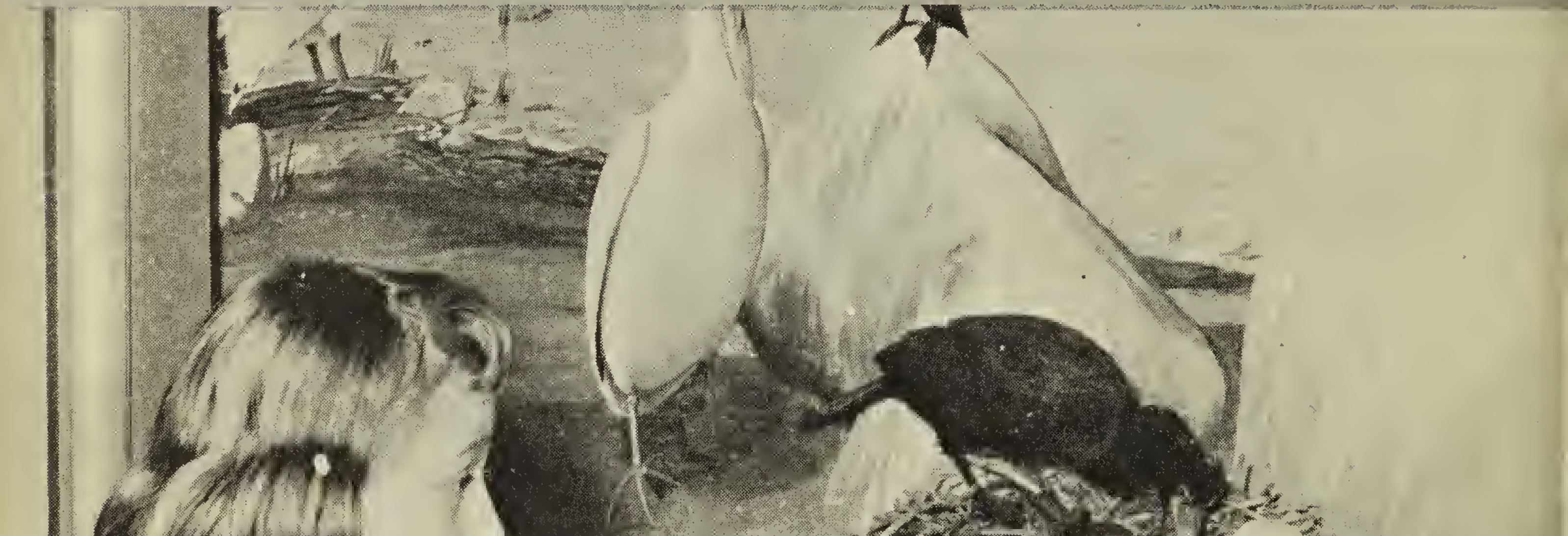
SUNDAY, JUNE 17

Optional trips to be arranged. Watch the June issue of **Blue Jay** for further particulars.

ACCOMMODATION: Rooms available at Valley Centre at $4.00 per room, regardless of number sharing (most rooms take four). Alternatives—hotel, two motels. Meals at Valley Centre, and lunches for field trip Saturday. Write as soon as possible for reservations to Valley Centre, Fort Qu'Appelle.

University of Alberta,
Rutherford Library,
EDMONTON, Alta.
Dec/62

Authorized as second class mail, Post Office Department, Ottawa.
Postage paid at Saskatoon, Saskatchewan.
Please return unclaimed magazines. Return postage guaranteed.



—Saskatchewan Museum of Natural History Photo

Who is she and what is she doing?

SEND ALL SUBSCRIPTIONS, RENEWALS AND ACCOUNTS TO
Mrs. Grace Steele, 3603 Caen Avenue, Regina
SEND MATERIAL FOR PUBLICATION IN THE JUNE ISSUE BY
APRIL 15, 1962, TO
G. F. Ledingham 2335 Athol Street, Regina

MIDWEST LITHO LTD., SASKATOON and REGINA

A55901